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PACIFIC PULP & PAPER INDUSTRY

Volume 4
Number 7

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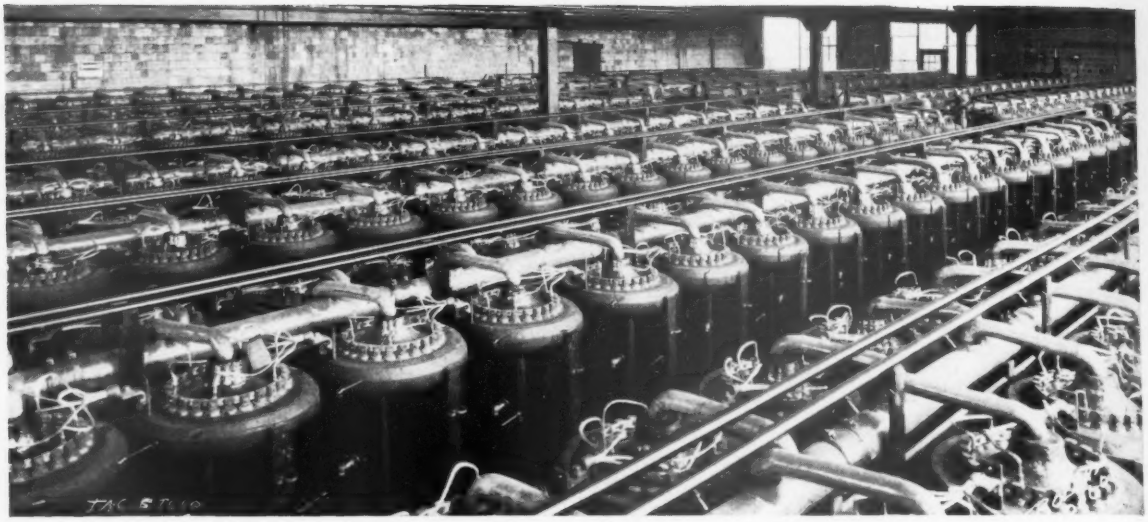
A copyrighted photograph by Asahel Curtis, Seattle

A Ranger Station in the Olympics

JUNE • 1930

Liquid CHLORINE



A PORTION OF ELECTROLYTIC CELL ROOM

Ideally Located to Render Most Efficient Service

The salt used by the TACOMA ELECTRO-CHEMICAL COMPANY in the manufacture of LIQUID CHLORINE is made into a brine solution and carefully purified.

After all impurities have been removed from the brine it is conducted to electrolytic cells where the direct electric current decomposes the salt solution into Chlorine Gas, Hydrogen Gas and Caustic Soda.

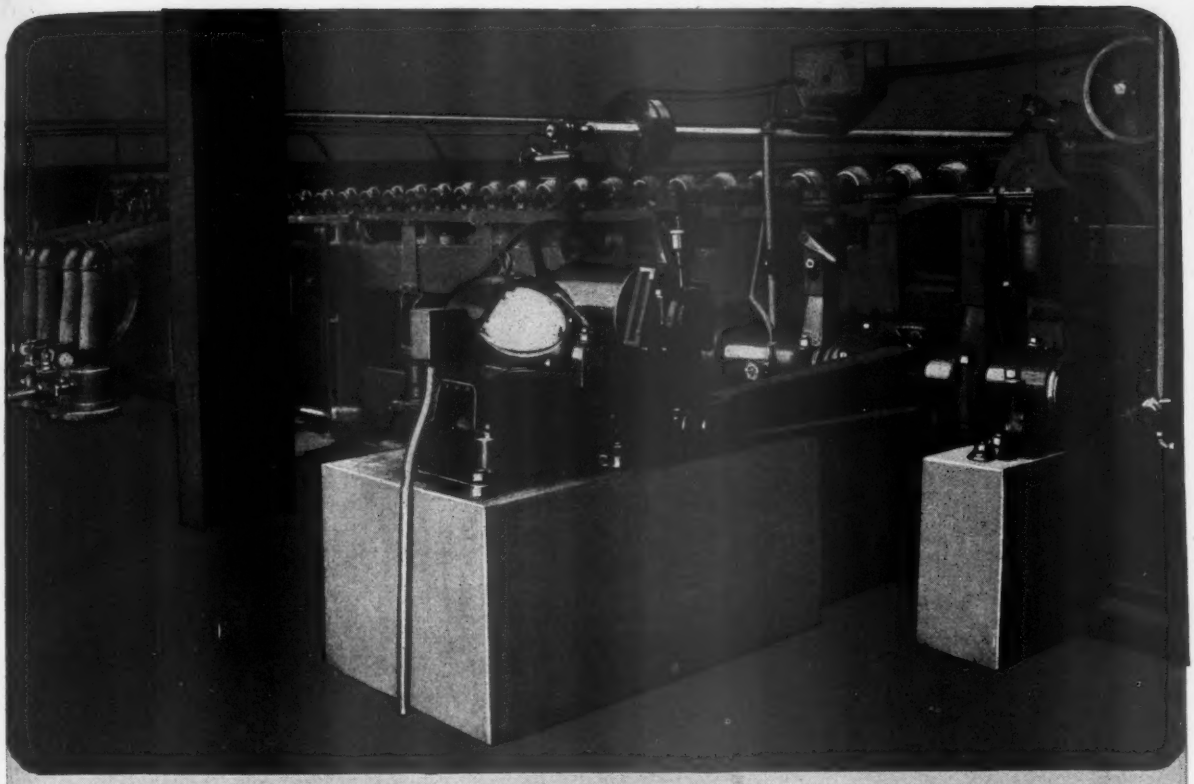
Constant attention to the purification of the salt brine as well as to the details of the electrolytic process enables the TACOMA ELECTROCHEMICAL COMPANY to produce chemically pure LIQUID CHLORINE so necessary in the bleaching of high grade pulp.

TACOMA ELECTROCHEMICAL CO.

TACOMA WASHINGTON.

A SUBSIDIARY OF THE PENNSYLVANIA SALT MANUFACTURING CO.

Pacific Pulp & Paper Industry is published once a month—except in March, when publication is semi-monthly—at 71 Columbia St., Seattle, Wash. Subscription: U. S. and Canada, $4.00; other countries, $5.00. Entered as second class matter May 20, 1927, at the Postoffice at Seattle, under the Act of March 3, 1879.



Shaking at 400 Strokes per minute running at high speeds

The Aldrich *High-Speed Shake*

MAKING fine papers such as book, bond, kraft and tissue on wide, high-speed machines, is the purpose of the Aldrich High-Speed Shake, now in use on over seventy papermaking machines throughout the country. This improved Shake is controllable and adjustable while running. The shake pedestal itself is low down, very compact and solid and is geared to a direct current variable speed motor, easily accessible to the operator. A hand wheel regulates the length of stroke or throw of the shake. You do not shake the entire Fourdrinier, side frames and all.

With this lighter and more efficient mechanism, it is now possible to shake twice as fast as formerly and to produce a better formed sheet at a higher speed on any width machine.

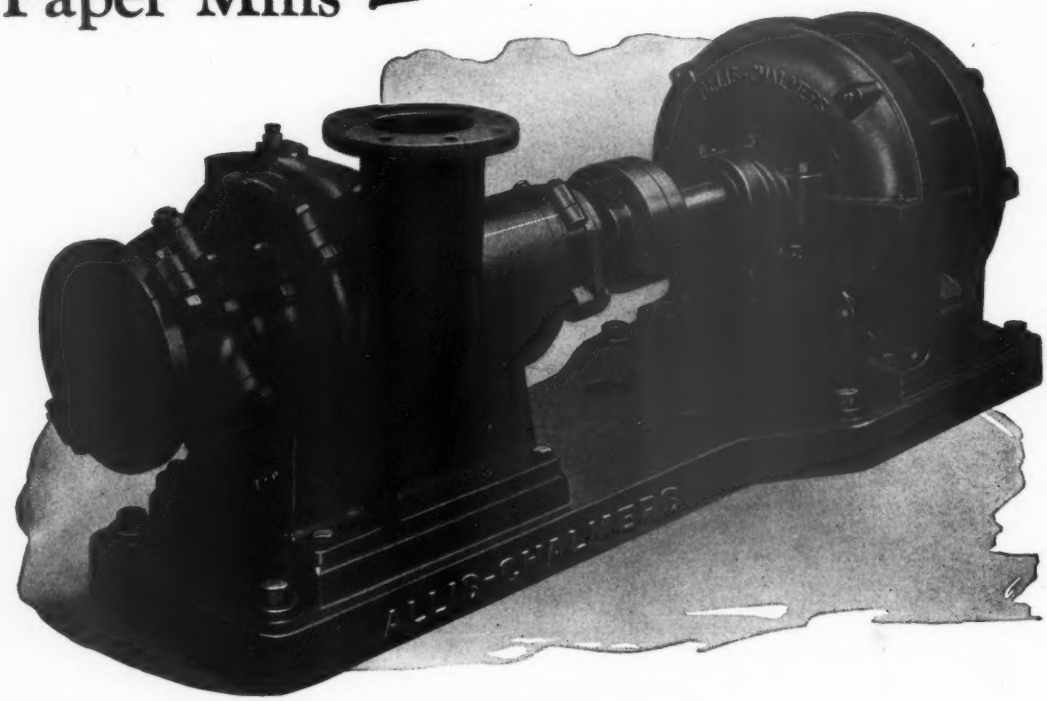
The *Beloit* Way is the *Modern* Way

BELOIT IRON WORKS, BELOIT, WIS., U. S. A.

The BELOIT

BELOIT IRON WORKS PAPER MACH'Y BELOIT WIS.

New Developments in Paper Stock Pumping Are of Interest to Paper Mills —



In this connection the improved Allis-Chalmers Paper Stock Pump merits your investigation

You can obtain from us on request, a data sheet for outlining your paper stock pumping requirement for our recommendations.

Write for Leaflet No. 2105

ALLIS-CHALMERS

MILWAUKEE, WIS. U. S. A.

PACIFIC COAST OFFICES: Rialto Building, San Francisco, Calif.: Rowan Building, Los Angeles, Calif.; 115 Jackson Street, Seattle, Wash.; 505 Lumbermen's Building, Portland, Ore.; 525 Symes Building, Denver, Colo.; 915 Kearns Building, Salt Lake City, Utah; 308 Heard Building, Phoenix, Ariz.; 619 First National Bank Building, San Antonio, Texas.

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A LARGE family of papers, alike in their tenuousness, differing widely in their finishes and applications.

Adequate strength for all, with maximum absorptive qualities in towels and toilet papers, toughness with transparency in tracings, toughness and smoothness with minimum transparency in onion skin . . . each type made perfectly on Rice-Barton Machines, at speeds that mean profit.

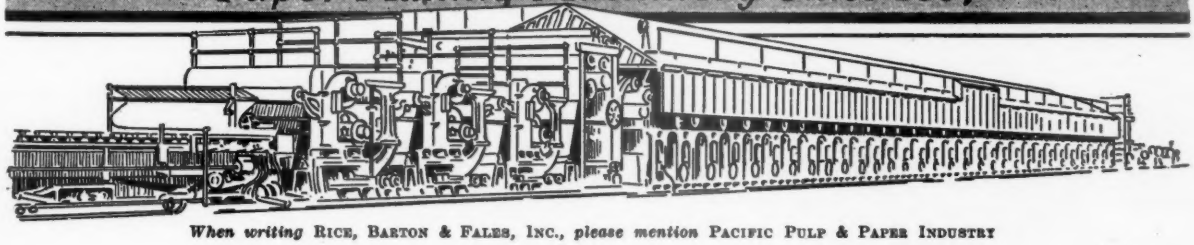
News, Board, Book, Money, or Tissue —Rice-Barton Machines make them all. This experience, coupled with an alert appreciation of present-day needs, have enabled us to assist manufacturers in planning new mills and modernizing old ones. Why not discuss a survey with us?

RICE, BARTON & FALES

Incorporated

WORCESTER, MASSACHUSETTS

Paper Making Machinery Since 1837



FALK

An Exceptional Speed Reducer Service

Falk service on speed reducers is of vital importance to everyone in industry . . . These good speed reducers are made in standard sizes and ratios in both parallel shaft and right angle types and are carried in stock for quick shipment . . . And their mechanical features, too, are worthy of the most serious consideration . . . They are simple, compact, oil-tight, dirt-proof, quiet, free from heat and vibration, permit a higher ratio of reduction per gear, transmit load and transform speed with less friction loss than any other type or kind . . . In speed reducers, particularly, it pays to consult Falk first!

THE FALK CORPORATION — MILWAUKEE

Manufacturers — Herringbone Gears, Speed Reducers, Flexible Couplings, Steel Castings and Oil Engines.

Note These Features

Excessive capacity—unnecessary to buy oversize reducers . . . . Made in standard sizes and carried in stock for immediate shipment . . . . All wearing parts are interchangeable and renewable. The entire construction is simple and accessible . . . . Patented splash system of lubrication . . . . No male and female shafts, bushed gears or overhung studs. Highest possible efficiency, maintained throughout life of reducer.

Carried in Stock on the Coast in a wide range of sizes and ratios by

THE PRESCOTT CO.—Seattle

FALK ENGINEERING & SERVICE OFFICES

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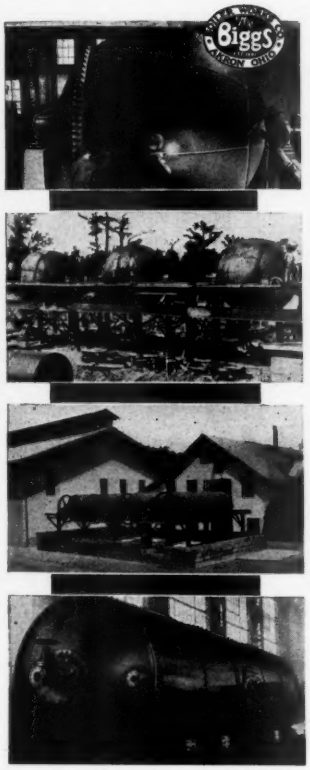
FALK SPEED REDUCERS

BIGGS Welded Rotaries Cut Your Maintenance, Increase Your Profits



Typical Biggs Installations

Top—Biggs Welded Rotary Digester.
Second—Biggs Riveted Rotary Digesters.
Third—Biggs Standard Cylinder Rotary Bleaching Boilers.
Bottom—Biggs Tumbling Digester.

"Built by Biggs"

Welded Globe Rotary Digesters

Riveted Globe Rotary Digesters

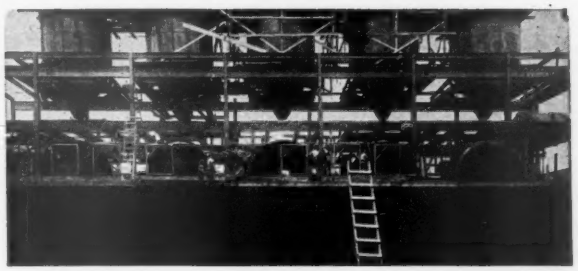
Cylinder Rotary Bleaching Boilers

Tumbling Digesters, Welded or Riveted

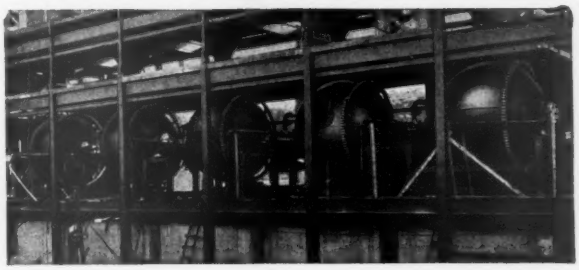
Sulphate and Sulphite Digesters Penstocks

Welded or Riveted Steel Plate Construction of Every Description

Biggs Electrically Welded Vessels are accepted for installation in localities where the A.S.M.E. code has been adopted for unfired pressure vessels.



Five 14-foot diameter Biggs welded rotary digesters, built and erected for John H. Heald Company, Lynchburg, Va. Test pressure, 225 pounds. Rotaries are complete with worm and segment drive. Welded digesters eliminate the difficulties arising from riveted construction for special processes.



Five 14-foot diameter all-welded rotary digesters being erected by Biggs for the Harriman Company, Harriman, Tenn. Shell plates are butt-welded construction. Test, 225 pounds. Ideal for the chestnut chip and similar processes.

MORE and more, Biggs Welded Rotary Digesters are being installed for special processes because they eliminate the hazards involved in riveted construction. Maintenance costs virtually disappear. Profits jump correspondingly.

Biggs has built and equipped a large unit devoted exclusively to heavy welded construction. Research development, laboratory tests, and exhaustive analysis conducted by Biggs engineers have perfected a welding process recognized by Hartford, Travelers and all other important insurance companies. They accept Biggs electrically welded vessels for insurance without limitation as to size or operating pressure. The Biggs weld is *stronger than the plate itself.*

The Biggs welding procedure has attained so complete a control of the many variables as to insure a uniform product, and to win for Biggs Welded Vessels the same confidence as has been accorded all Biggs products since 1887. Biggs fabricates and erects rotary, tumbling, and stationary digesters in all parts of the United States and Canada.

The illustrations above are among the many shown in Biggs' new pictorial folder, "Unusual Steel Plate Construction".

The coupon will bring you a copy

The Biggs Boiler Works Company

Buchtel and Case, Akron, Ohio
New York Detroit Chicago

The Biggs Boiler Works Company
Buchtel and Case,
Akron, Ohio.

Send "Unusual Steel Plate Construction"

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BIGGS ROTARIES *for years of dependable cooking and bleaching..*

The Biggs Boiler Works Co. Akron Ohio

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LINK-BELT
Link-Belt makes all types of driving, elevating and conveying chains, and therefore are free to recommend without prejudice the best one for the purpose. Our large stocks assure prompt shipment. Catalogs sent on request.

LINK-BELT COMPANY 3967

Equipment for Handling Materials Mechanically and for the Positive Transmission of Power

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LINK-BELT COMPANY, PACIFIC DIVISION

SAN FRANCISCO, 400 Paul Avenue LOS ANGELES, 361-369 South Anderson Street SEATTLE, 820 First Avenue, South

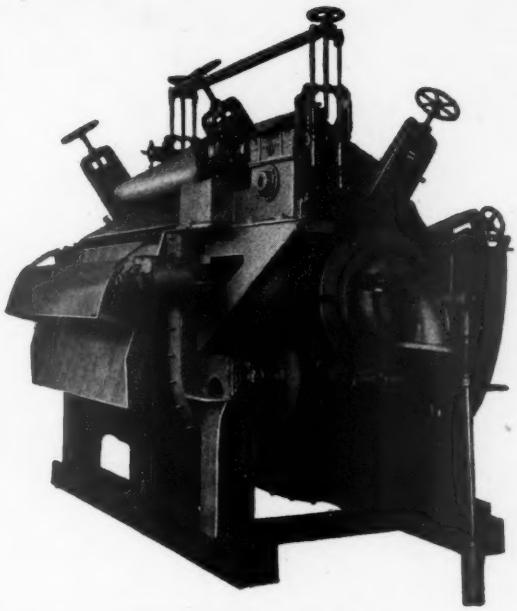
PORTLAND, ORE., 67 Front Street OAKLAND, 526 Third Street

LINK-BELT

When writing LINK-BELT COMPANY *please mention* PACIFIC PULP & PAPER INDUSTRY

Results

...After Two Screw Presses Gave Way To One Oliver High Density Thickener



BY replacing two screw presses with a 6′ x 8′ Oliver High Density Thickener, a prominent mid-western paper company brought about these improvements:

The desired 18% A.D. consistency is being obtained and maintained as against 14.5% with screw presses.

Power requirements with the Oliver are only 4.8 H.P. as against 19.8 H.P.

Flowsheet interruptions have been eliminated by the Oliver. The screw presses had to be reversed every eight hours and steamed every four days or oftener.

The Oliver operates with a 1.7% feed as against 6%, thus eliminating p u m p i n g troubles.

Functioning as a save-all, effluent losses are but 0.4# per 1000 gallons.

Stock from the Oliver unit is fluffy and free from little balls, the best condition for bleach penetration.

Invariably when existing mills have installed Oliver United equipment as part of a modernizing program, substantial cost-reducing results have been obtained.

AGENTS

TIMMINS, ONTARIO — B. D. Kelly
HALLE, GERMANY — Wilhelm Lill
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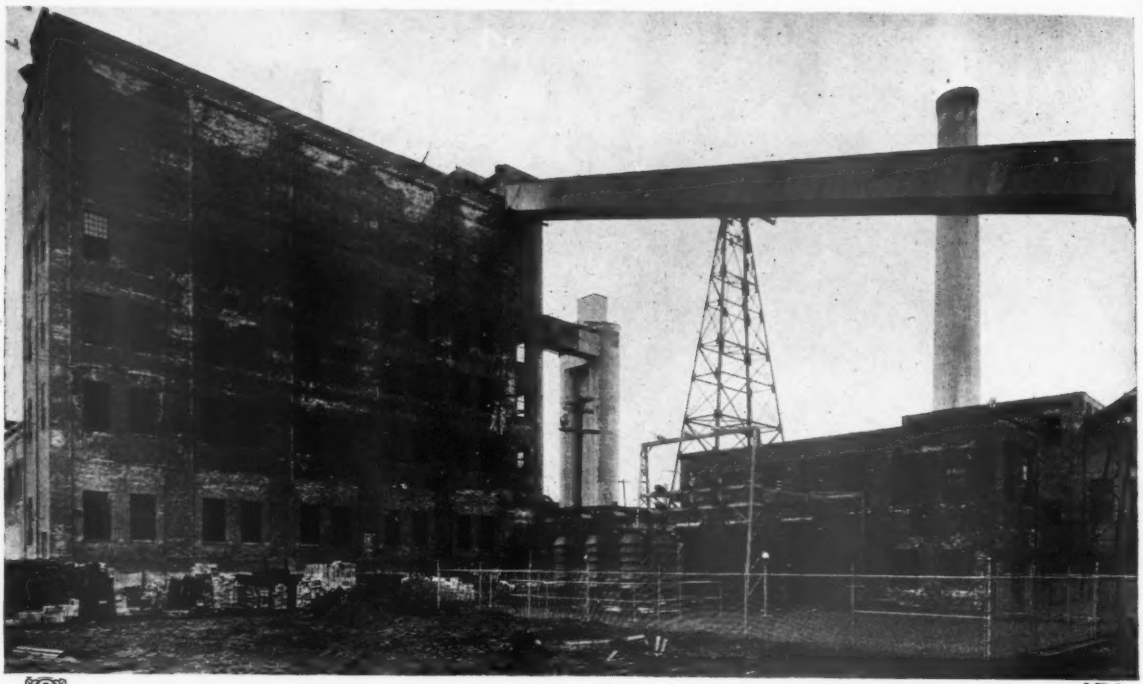


Our New Bleached Sulphite Plant at Everett, Washington to begin operation this month

VIEW SHOWING
Digester Building, Electric Sub-Station, Portion Chip Conveyor Steam Plant and Acid Towers

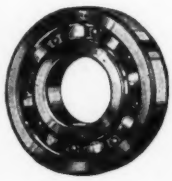
PUGET SOUND PULP and TIMBER CO.
EVERETT, WASHINGTON

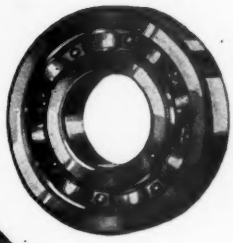
Manufacturers of Bleached and Unbleached
SULPHITE PULP

When writing to PUGET SOUND PULP & TIMBER CO., *please mention* PACIFIC PULP AND PAPER INDUSTRY

WHAT'S YOUR BEARING PROBLEM?

SPEED





Run over the entire range of bearing conditions—at one extreme, tremendous loads with low or moderate speeds—at the other extreme, tremendous speeds, with light or moderate loads—and, in between, all sorts of load and speed combinations, shock, vibration, variable loadings.

OR

In the entire range of anti-friction bearing service, there is not a set of conditions which cannot be met with NORMA-HOFFMANN Precision Bearings—economically, and with every assurance of satisfaction.

Let Norma-Hoffmann Engineers assist you in selecting the right bearing for your conditions. Their long experience is at your service—without obligation. Write for catalogs.

LOAD

"NORMA-HOFFMANN"
PRECISION BEARINGS

PACIFIC COAST REPRESENTATIVES:

SEATTLE: Ahlberg Bearing Co. of California, Inc., 512 East Pike St.
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SAN FRANCISCO: Irvin Silberberg & Co., 541 Van Ness Ave.; Ahlberg Bearing Co. of California, Inc., 549 Golden Gate Ave.
LOS ANGELES: Joseph A. Masterson & Co., 1822 So. Hope St.; Ahlberg Bearing Co. of California, Inc., 1708 So. Grand Ave.
PHOENIX, ARIZ.: Ahlberg Bearing Co. of California, Inc.

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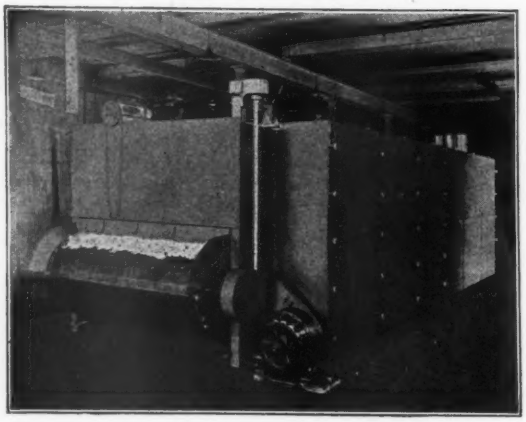
(PATENTS GRANTED AND PENDING ALL COUNTRIES)

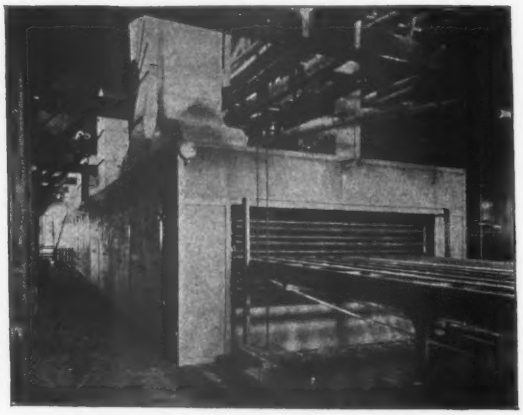
Investigate Our Installations

For PULP DRYING



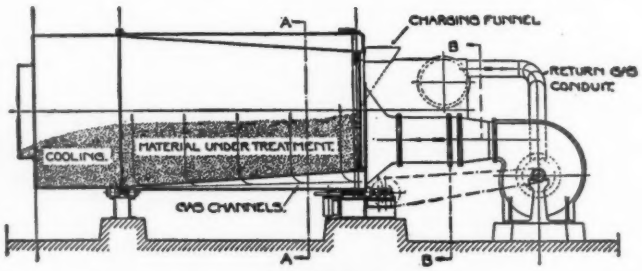
Shredded Pulp Dried With Same Strength as Wet

For INSULATING BOARD

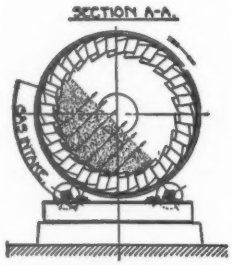


Type M Dryer—For Uniform Surface Board—High Speed Maximum Efficiency

. . . for Bark and Chips



ELEVATION



SECTION

The New "PHERSON" Rotary Dryer

Higher Efficiency—Smaller Units—Lower Costs

TECHNICAL ECONOMIST CORPORATION

122 East 42nd Street NEW YORK, N. Y.

We built the first Minton Vacuum Dryer

–we want to build yours

The first commercial Minton Vacuum Dryer for the paper industry was built in 1926 by the Pusey and Jones Corporation for the Bakelite Corporation, Bloomfield, New Jersey.

As licensee of the Minton Vacuum Dryer Corporation we offer to the paper industry all the engineering facilities of the Minton Corporation *plus* the knowledge and skill that comes of sixty-five years in the paper machine business.

Pusey and Jones

THE SIGN OF TRADE MARK SUPERIOR QUALITY

THE PUSEY AND JONES CORPORATION, WILMINGTON, DELAWARE, U. S. A., Builders of PAPER MAKING MACHINERY; for NEWS : BOOK : KRAFT : BOARD : : Working For, and in Technical Co-operation With, the Forward Thinking Minds of the Industry : Since 1848 : The MARK, shown here, will be found on Every Casting, and on every Other Part of Major Importance, in every Machine produced by This Company : : It is the Mark of Our Own Technical Standards : : A mark of Superior Quality.

16 Pages of *Information*

about BRISTOL'S *RECORDING* Psychrometers

WHEREVER atmospheric conditions are to be controlled, a knowledge of relative humidity is the key to securing and maintaining desired results. Bristol's Recording Psychrometers are designed to record this information automatically and continuously.

Such records can be readily filed away, and are valuable, both as a source of engineering data, and for reference in settling disputes.

Instrument Models described in this new Bristol's Catalog can be adapted to meet a great variety of installation requirements. They are easy to install, and are noted for simplicity of construction, accuracy and sensitivity of operation.

Catalog No. 2100 should be in your reference file. A copy will be sent on request to any interested person.

To aid in planning installation details, Bristol's Engineering Service is at your disposal—without obligation.

The
BRISTOL
Company
Waterbury,
Conn.

WHAT DO WE MEAN by STANDARDIZATION?

Rigid adherence to a set standard of quality. No compromise — no substitute — no variation — in raw materials, in process, in results.

That is why you can depend upon National Dyes to be the same— today, tomorrow and always.

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NEW life

for PAPER MACHINES

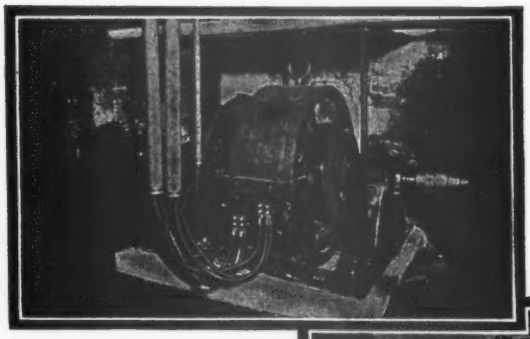
with single motor drive

IF you have a paper machine too good to discard, but which can no longer meet your modern demands of speed and economy, there is usually a simple solution of the problem.

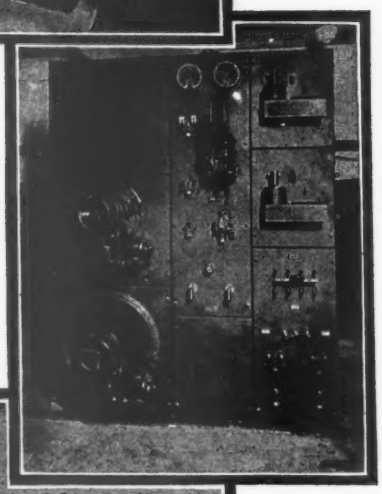
The Westinghouse single motor paper machine drive is ideally adapted to the rejuvenation of good old paper machines and the illustrations show the equipment recently installed in a Middletown, Ohio paper mill.

The motor is coupled directly to the line shaft and drives the paper machine at any speed from 80 to 800 feet per minute. The Westinghouse system of speed regulation by means of a new type carbon pile regulator holds the speed constant in spite of load fluctuations.

Let Westinghouse add years of productive life to your old paper machines with a single motor drive.

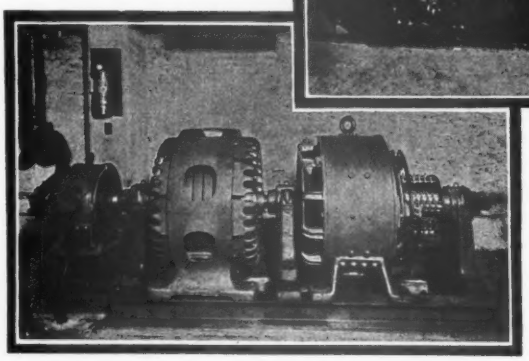


300-hp. Westinghouse D-C. Motor coupled to line shaft



Control panel with motor-operated rheostats and Westinghouse Carbon Pile Speed Regulators

212-kw. Westinghouse Motor Generator for furnishing power to the driving motor



Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

WESTINGHOUSE ELECTRIC

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TUNE IN THE WESTINGHOUSE SALUTE OVER THE N. B. C. NATION-WIDE NETWORK EVERY TUESDAY EVENING.

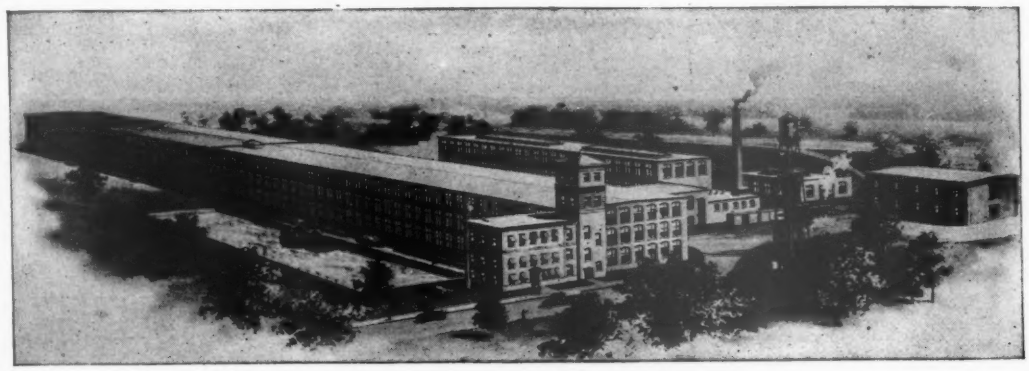
ONE WAY STREET

A CHALLENGING VISION FACED THE FIRST BUILDERS OF PACIFIC PULP AND PAPER MILLS. NO TRAIL MARKED THE WAY; ONCE STARTED THERE WAS NO TURNING BACK. THEY TRAVELED A ONE-WAY STREET . . . CAME THROUGH . . . AND CLEARED THE WAY FOR A GREAT AND GROWING INDUSTRY. WHERE THEY PIONEERED, NOW OTHERS FOLLOW.

FOR THOSE PIONEER PULP AND PAPER MILLS ON THE COAST, THERE WAS BUT ONE SOURCE OF CHLORINE — GREAT WESTERN ELECTRO-CHEMICAL COMPANY. TO HAVE THE SUPPLY ABSOLUTELY CERTAIN WAS VITAL — AND IT NEVER FAILED. THE SAME SURE SUPPLY, THE SAME UNIFORM QUALITY, STILL CHARACTERIZE BEAR BRAND CHLORINE, SUPPLIED TO THE INDUSTRY BY GREAT WESTERN.

GREAT WESTERN
ELECTRO-CHEMICAL
COMPANY

SAN FRANCISCO
PLANT: PITTSBURG, CALIF.
SEATTLE, 514 FOURTH AVENUE



THE HOME OF ALBANY FELTS

• • • WHY IS IT POSSIBLE for Albany to produce BETTER and BETTER FELTS year after year?

Constantly Better

THE FIRST FACTOR is designing... minute attention to analyzing the requirements before a single inch is woven. The result is not a standard felt "doctored up" to approximate the needs, but an individual design developed for an individual position.

THE SECOND FACTOR is wool. Albany is more than particular in selecting the proper qualities and has its wool buyers searching the markets of the world to meet the Designing Department's exacting specifications.

THE THIRD FACTOR is the blending of the wool and the spinning. Nowhere are scientific methods and control more important. It is astonishing to see the improvement which often comes from giving this factor painstaking care.

THE FOURTH FACTOR is the weave. Porosity, finish, strength—all must be taken into consideration, and the right weave selected to do the work properly.

THE FIFTH FACTOR is finishing. Experienced and capable finishers with years of training give the felt the final touch so necessary for its success.

Paper Machine Felts and Jackets Tailor-made from the World's Choicest Wools

Albany NEVER LETS UP— always seeking improvements through research, better machinery, modern methods. That is why ALBANY FELTS are leaders in their field, steadily growing in favor—

by

Albany Felt Company

ALBANY, N. Y.

Constantly Better

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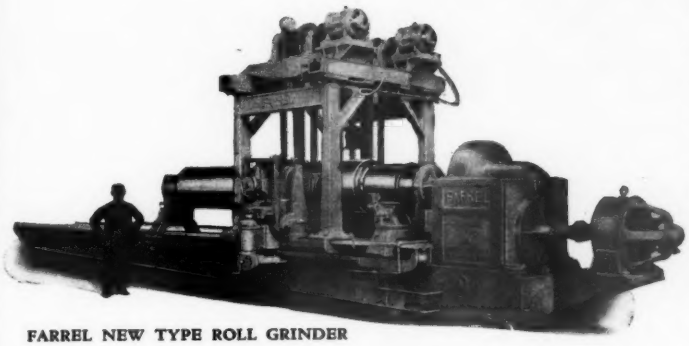
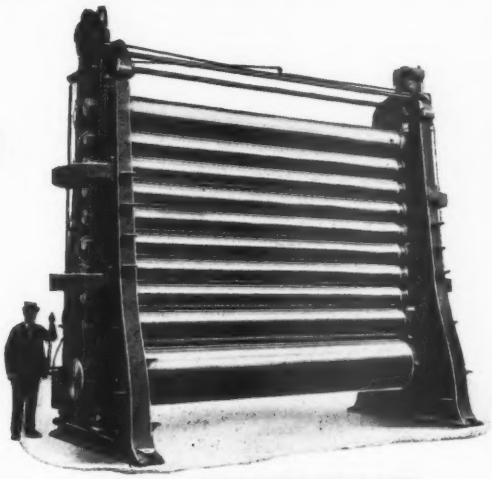


FARREL NEW TYPE ROLL GRINDER

FARREL NEW TYPE ROLL GRINDER is made in 24", 32", 36" and 42" sizes, all electrically driven throughout and fitted with Geared Head, Automatic Lubricating System and combination Swing Rest and Crowning Device, which provides for greater accuracy and faster grinding with a minimum expenditure of time and labor.

FARREL CALENDERS

are made with
HYDRAULIC
ELECTRIC
or
RATCHET
LIFT
all operated
from the floor.



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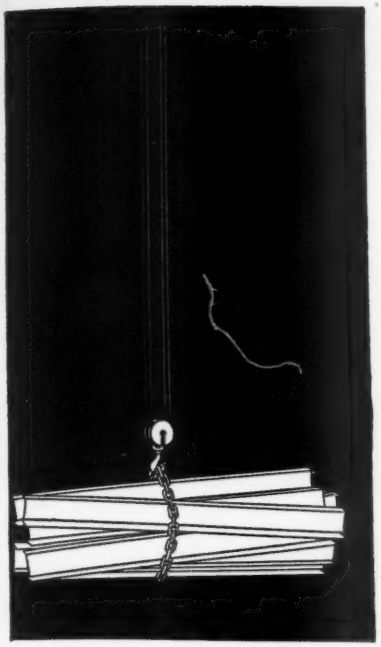

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THE PACIFIC COAST JOURNAL FOR PRODUCERS, CONVERTERS, AND DISTRIBUTORS OF PULP, PAPER, AND BOARD.

SEATTLE 71 Columbia Street
PORTLAND Sherlock Building
SAN FRANCISCO 369 Pine Street
LOS ANGELES Douglas Building

¶ There is but one way to appreciate the Olympics, and that is to see them, but if the reader, tied by force of circumstance to routine in mill or office, will get down his map and hunt out Hoh Lake up in the highlands of the Northwestern part of the peninsula where the waters are shed in three directions to the Hoh, Sol Duc and Bogachiel rivers, he will have located the spot where the two rangers on the cover posed for this photo.

¶ In few places has Nature contrived to crowd into like area more of scenic beauty and forest wealth than on the Olympic Peninsula in Washington. Here, cascading down from rugged peaks, blanketed deep in snow and glacier, are powerful streams which some day will be harnessed to turn the wheels of man's industry.

¶ Here, densely covering these rugged hills from the shore of the Pacific to timber line, are millions upon millions of stately giants of the forest, the last, one might say, of America's vast timber holdings. Here can still be found rich forests untouched by axe.

¶ But not for long will such scenes remain totally undisturbed. A loop highway around the entire Olympic range will forge its last link on the Western side very soon, opening a mighty scenic wonderland to tourist and camper. From the North and from the South, railroads are now projected into this great forest country. The loggers are cutting in from both ends.

¶ But thought is turning from the simple but impractical expedient of "mining" this timber to the more constructive idea of treating the timber as a crop, harvesting it intelligently so that to the end of time these rich hills will contribute an unfailing supply of forest products.

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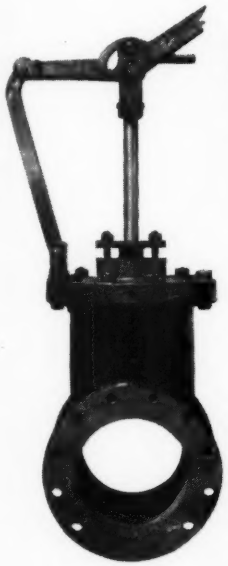

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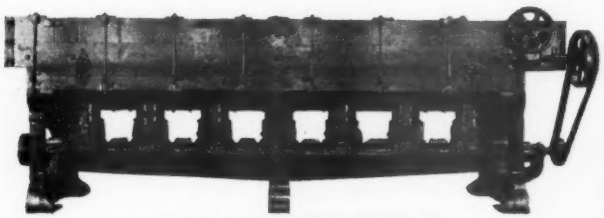

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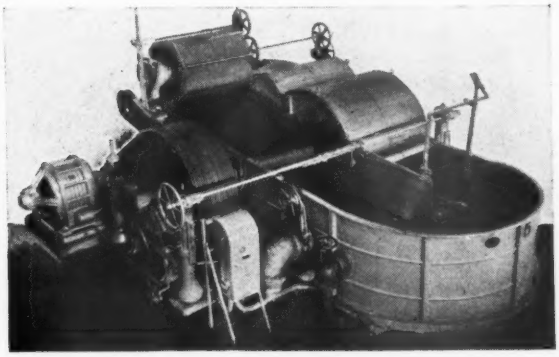

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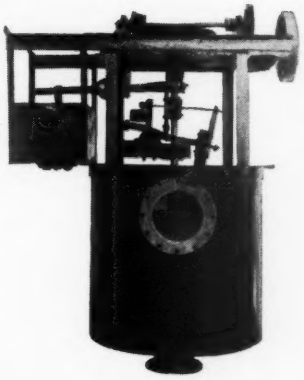

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NEW YORK

Those Over-Production Blues

Sea Sickness Pills OR Life Preservers

THE other day an engineer, whose present mission in life is to call upon a number of industries and explain the merits of a certain class of equipment and services that still have need of missionary services, called upon a pulp mill executive. The engineer, and the new field man who made the call with him, was made the object of a sermon by the pulp mill man on just how rotten the business was.

As this pulp mill executive pictured the industry, business could scarcely be at lower depths. There was no regard for cost of manufacture, there was no regard for business ethics, there were too many in the business, and the pulp business was without question, the very worst business in the world to be in.

There wasn't much progress made in that interview, but the new field man did benefit from it by this sage bit of comment from the engineer when they were in their car and driving away.

"You know," remarked the engineer, "I could just have closed my eyes and imagined that I was in the office of an executive in the mining industry, in a textile mill, in an oil company, in a flour mill, in the lumber business. I could go on almost without end. Every last one of them thinks that the whole world of troubles revolves about himself and that it must be mighty sweet to be in some other line of business.

"But I notice, just the same," the engineer went on, "that those companies which are really alert, aggressive, who are whittling and not whining, continue to make good despite the condition of the industry in general. Every industry has its weaknesses.

"Trouble is, when an industry gets a pain in the midriff, it has an idea that the only thing necessary is to take a pill or two and be cured. Well, if you load yourself up on sweets and eat entirely to the dictates of your palate and do not listen to your stomach, a pill isn't going to do you any good. Your old belly will growl after you keep up that sweet diet for a while, and when it begins to growl a fellow ought to have sense enough to listen. If you disregard these growls a pill isn't going to do any good. What will then be needed is a thoro examination of the innards with x-rays and maybe a diet. Or if that is postponed long enough—a burial."

The pulp and paper industry isn't singing a solo when it renders "Those Over-Production Blues." It is just one of the chorus. While it may not be much comfort to know that all the neighbors have a belly ache also, it should at least be incentive to investigate the cause of such wholesale pain. Might be ptomaine.

One of the odd contributions in the way of a quick remedy for modern business ills is the cooperative advertising idea to increase consumer demand. Granted that some early campaigns may have been effective. If they got results, the victory goes to the display of initiative in finding a new approach. Things hadn't been done that way before. And people had time to read a few cooperative advertising programs.

But the recent years have seen thousands of these cooperative advertising programs shoved down the gullets of ailing industries, until the reader has become calloused to the manifold appeals. The demands upon the consumer's attention have exceeded the ridiculous. It is difficult to conceive how today the average industry can have any faith in the cooperative advertising pill.

As a drowning man will clutch for a straw, as a man growing bald will try any kind of hair tonic, as a donkey will feed on the other side of a fence tho he stand in a pasture of abundance, so are countless industries grasping for the quick remedy. If you doubt the vast sums that are being spent to shout louder into the failing ears of General Consumer, look over the list on this page.

Meanwhile, those alert individuals in every industry, if they see a typhoon ahead, are not asking the captain for pills for seasickness. You'll more likely find them looking into the location and adjustment of the life-preservers and small boats.

THESE ARE BUT A FEW

California Fruit Growers Exchange	$680,000
American Soap & Glycerine Prod., Inc.	270,000
Laundry Owners National Association	260,000
Sun-Maid Raisin Growers Association	230,000
Switzerland Cheese Association	200,000
Canners League of California (Asparagus Section)	175,000
Glass Containers Ass'n. of America	170,000
National Association of Ice Industries	165,000
Californians, Inc.	155,000
Rayon Institute of America, Inc.	150,000
National Confectioners Assn.	150,000
American Bottlers of Carbonated Beverages	145,000
Society of American Florists	145,000
National Home Furnishings Program	130,000
National Lumber Manufacturers Ass'n.	130,000
The Cycle Trades of America	130,000
National Association of Flat Rolled Steel Mfgrs.	125,000
American-Japanese Tea Comm.	125,000
Evaporated Milk Association	120,000
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Photographers Association of America	115,000
Cast Iron Pipe Research Association	110,000
Wallpaper Association of the United States	110,000
California Walnut Growers Association	105,000
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The Industrial Alcohol Institute, Inc.	98,000
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Aluminum Wares Association	85,000
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California Lima Bean Growers Association	70,000
National Shoe Retailers Association	70,000
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American Association of Nurserymen	65,000
Associated Curled Hair Industries	55,000
Southern Cypress Manufacturers Association	55,000
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Oak Flooring Mfgrs. Association of the United States	40,000
American Face Brick Association	40,000
Calcium Chloride Publicity Comm.	40,000
American Fruit Growers, Inc.	40,000
Western Growers Protective Association	40,000
American Institute of Steel Construction, Inc.	40,000
American Cranberry Exchange	40,000
Engraved Stationery Manufacturers Association	40,000
New Orleans Association of Commerce	40,000
Ontario Government Publicity Bureau	40,000
Portland Cement Association	35,000
American Walnut Manufacturers Association	35,000
National Piano Manufacturers Association	35,000
The Durene Association of America	30,000
Common Brick Manufacturers Association of America	30,000
Western Pine Manufacturers Association	25,000

The TRADE *approves* the SKID PACK

SKID PACKING HAS COME TO STAY

¶ The paper industry is credited with pioneering the skid pack. The idea has come into such general use that the trade associations have appointed committees to study the special problems involved.

¶ The discussion on skid packing for deliveries of paper, presented herewith, is an abstract of the report presented at Del Monte last month by the Special Committee on Skid Packing to the annual convention of the Pacific States Paper Trade Association.

¶ The committee was headed by W. B. Reynolds, of the General Paper Company, assisted by L. A. Colton, of the Zellerbach Paper Company and F. L. Lange, Blake, Moffitt & Towne, all from San Francisco.

¶ An interesting part of this study is that the committee brought to light a widening general acceptance of the skid pack for commodities other than paper, and with this increased use of skids, some new uses for paper.

¶ Apparently there are many reasons why the paper industry, from mill to customer, should support the skid pack. Approval has been secured; the main problem now is one of working out standards.

SKID packing for deliveries of paper stock must consider four principles—(1) the manufacturer of paper, (2) the paper merchant, (3) transportation companies, including drayage people, and (4) the printer or lithographer. A review of Pacific Coast deliveries to date reveals positive approval of skid packing from both jobbers and mills, that the method is here to stay and must be figured on in future mill shipments.

The present conference report, which follows two preliminary reports made in the past twelve months, is designed to outline the attitude of each of the four parties in interest and to make definite recommendations to the Pacific Coast Paper Trade Association.

Manufacturer's Viewpoint

Apparently manufacturers favor skid packing provided the minimum weight of each skid justifies the change-over from individual case packing. A few manufacturers will consider a 2,500 lb. minimum, while others insist on 3,000 lbs. or even 3,500 lbs. To effect a clear understanding on weights, running from mill right thru to the ultimate consumer, or printer, the jobber must know exactly the minimum weights applying on merchandise from each mill he figures on.

Needs of Pacific Coast jobbers are best filled by non-returnable skids, altho a few manufacturers work on a returnable basis.

Savings to the manufacturer lie chiefly in the cost of loading. From data acquired by the committee savings ranging from 25% to 90% in labor and time of loading are reported.

When the skid packing issue is forced by one manufacturer—or a group—with its consequent reduction in ultimate price to the consumer, other mills are compelled in self protection to adopt the same kind of packing. Therefore, skid packing will become an increasingly important factor.

Distributor's Viewpoint

The jobber is vitally interested in consumer demands. The past year has demonstrated that printers and lithographers will pay a lower price for merchandise on skids as against case shipments, and in addition find a real press room saving when using skids for long runs. Therefore, jobbers must be able to provide skid deliveries. As most of the skid deliveries have reached the Pacific Coast by water, rather than by rail, California jobbers have had to face the skid problem in more acute form than jobbers in the Northwest.

From jobber reactions it is concluded that (1) skid packing must be reckoned with as a desirable form of handling mill shipments, (2) that it is not a desirable form of stocking for small deliveries from the jobber's own warehouse, and (3) successful continuation of skid packed merchandise sales demands some care in analyzing individual delivery conditions provided by each customer.

RECOMMENDATIONS

Reported by the

Special Committee on Skid Packing

FIRST—That an effort be made to agree upon a **standard minimum weight** for skids; 3,000 lbs. is really what the mills want, rather than 2,500 lbs., which is more suited at the present time to a great many elevators which have to be used in reaching certain pressrooms.

SECOND—That a **standard clearance** from floor to platform of skids be agreed upon.

THIRD—That **size of platforms** also be standardized because of the importance of not having platforms that are too big for certain presses.

FOURTH—That the **non-returnable skid** be regarded as the most satisfactory for our market, rather than the returnable skid.

These conditions take into account elevator capacity, size of presses, entrance way from trucks to buildings, and lifting equipment to move skids about. Width, length and floor clearance of skid platforms are important. Elevator capacities are often limited. In San Francisco, 2,500 lbs. was regarded the maximum successful weight to be put on an elevator.

Altho one Los Angeles jobber evinced dissatisfaction with water shipped skids, no other reports of skid-packed shipments damaged in water transportation were received. Steamship companies indicate a preference for skid packing, as they say claims are lighter and less frequent.

Most skid packed merchandise has been moving by water from Atlantic ports to Pacific, and to some extent from fine paper mills in the Pacific Northwest states to California ports. There is also some rail movement.

Transportation Companies

Steamship companies, railroads, and cartage firms favor skid packing. Cartage firms reported that once equipped to handle skids the work is done easier and faster ton for ton as compared to shipments in cases and bundles. Cartage prices per ton being fixed, the saving element is time, enlarging the profits of the cartage firms and thus securing their endorsement.

A steamship company reported, "The longer goods can remain intact on skids until arrival at final destination, the greater the saving at each unloading, handling, and reloading operation. Loading of skid packed shipments from car door to ship's stowage shows a saving of from two to six handlings, and speeds the operation. The Bureau of Standards is now seeking to standardize skids. All this is a result of pioneering by shippers in the paper industry."

As a side-light on possible far-reaching advantages thru wider adoption of skid packing, the committee learned of a steel manufacturer who, troubled with rust in intercoastal shipments, discovered that by putting these sheets of metal on skids and packing each sheet with oiled paper that shipments were handled more rapidly and without damage by rust.

The transportation companies are now working out a standardization of lift trucks, so that equipment at all points along the line from shipper to ultimate consignee will be identical, so far as availability is concerned, thus speeding up handling.

While steamship companies prefer full carload lots on skid packed shipments, at present they feel that when there is a nationally standardized skid platform that can be handled with any light truck any handicap involving an interchangeability of skids among lift trucks will be entirely overcome.

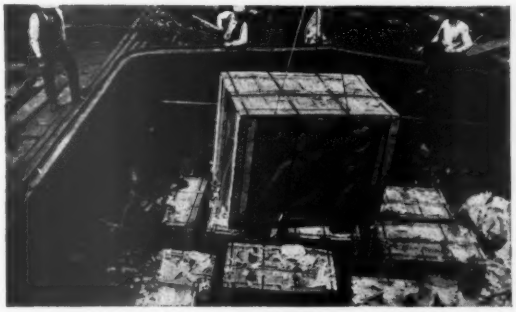
The Printer and Lithographer

While investigation is incomplete, only approval of skid packing has been found in this group to date. All are alive to the need of aligning skid sizes and weights to their own equipment and elevator capacity. Therefore, in taking orders for skid packed shipments the controlling factors on weights, sizes and clearances must be known so as to avoid—as has occurred in some cases—the tearing down of skid before the paper could actually reach the press.

A few scattering criticisms that skid shipments rob the printer of cases for delivery of finished goods are not considered vital. So many empty cartons are available from all paper jobbers, and in many cases new cartons of proper dimensions are ordered for these deliveries.

Generally, printers and lithographers recognize that skid packing brings to them a small saving in (1) the price of the item, because of reduced freight, and a differential in favor of skids as against cases imposed by the mills, and (2) important savings in time in getting paper from floor to press.

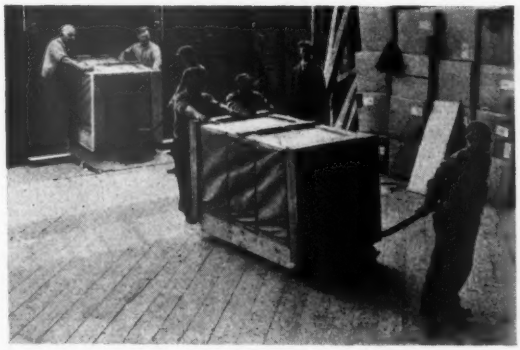
THE SKID PACK SYSTEM IN ACTION



Photos thru courtesy Munson-McCormick Steamship Lines

A 4-ton skid load of paper being landed at a Pacific Coast port from an intercoastal vessel. A special gear is used which fits around the skids and holds the container securely.

Here is shown the same skid load of paper swung over the ship's side and loaded directly upon a waiting truck. Handling is thus facilitated and the entire operation is speeded.



The railroad companies also favor the skid pack for paper shipments. With small trucks, either hand or motor-operated, skids are moved about with ease. The three photographs illustrate in part the need for standardizing the skids in such matters of weight of load, dimensions and floor clearance.

There's a

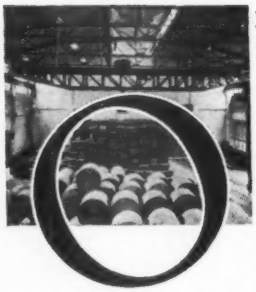
MINE

of

IDEAS

An Interview
with
Superintendent
ERIK EKHOLM

Puget Sound Pulp & Timber Company
San Juan Division



ONE error that management sometimes falls into is in thinking it holds a monopoly on brains. In a manner perhaps more thoughtless than egotistical management sets up an unconscious division of work that goes like this: "Management will do all the thinking. The employes will do all the working." It is a division which has merits in simplicity, but it doesn't bring out all that is in the organization.

Out there in the mill is a mine of ideas. Every man on the job has some ability to think, even in the lowliest of jobs, but it too often happens that the employe not only fails to receive active encouragement to use his brains, but is actually discouraged and given to understand that he was hired to work, not think. Like ore in the mountain, the mine of ideas has no value until the deposit is worked and the valuable materials brought to the surface, refined and put to use.

The workman is often accused of having no interest in the job other than in the pay check which attaches to it. If this is true the fault most likely lies with the management. The workman has his peculiarities. As a group he isn't a self-expressive sort. He needs a little stimulation to bring out what's in his mind.

Let the workman, doing a daily task over and over again, evolve some better method of doing that job. The idea must get to the management to be put to practical use. The foreman holds a key position in this matter of bringing out ideas, and if the workman finds his foreman unresponsive then initiative is dulled. The workman will hesitate before going over the foreman's head to the management as he has his job to consider and wishes to incur no ill feeling. The importance of the foreman's position, therefore, in bringing out ideas can not be over-emphasized.

Maybe the management accepts the idea, sprinkles the faithful employ with words of praise presented with much paternalism, meanwhile adopting the idea and chalking up any savings effected by the idea on the balance sheet. The workman is not altogether altruistic. If the idea is a profitable one for the management he wants, and is entitled to, something from the management besides some kind words which he can't cash at the bank.

These matters having to do with the personnel of the plant are largely intangible. It is difficult to lay down any rules for getting the best out of the employes. It is mostly a matter of common sense, of treating the men as men. In this advanced day it is generally recognized that a group of workmen that are alert and satisfied with the treatment they are getting from the management will contribute to the organization something more than can be measured by the sum total of their daily wages. But to secure the real cooperation of the employes, management must build on a platform of sincerity. There is nothing so apt to have a reverse action as employe schemes advanced which have no sincerity to them.

When management gets its employes to thinking how their jobs can be improved, gets them sold on the idea that there is profit for both sides, then is a new asset created for the plant. A thinking group of men focuses attention on the plant's problems from as many different angles as there are men in the plant. In other words, get your men to using their brains, and you multiply the brainpower of the organization. If two viewpoints are better than one, what more tremendous advantages are had in affording a hundred or a thousand viewpoints.

A personnel using its brains as well as its backs and hands creates an element of contest on which the management can cash in. Further, in such a group the unfits tend to weed themselves out and the better class of workmen are attracted. Wages tend upward in such a plant, and the men are worth it.

A few months ago the San Juan Division of the Puget Sound Pulp & Timber Company decided to tap the mental reserves of its crew. To show that the management was willing to listen to suggestions, was willing to pay for them, the company adopted the Suggestion Box idea and announced a number of monthly prizes for the best ideas, the best suggestion for the month to receive a prize of not less than $25. The locked Suggestion Boxes were placed in prominent places, the idea was given good publicity in the plant, and printed suggestion blanks with key numbers were provided.

The first month the boxes were swamped. No doubt that meant that the flood of ideas had been building up in the minds of the men for some time without having an outlet. The succeeding months didn't bring forth

waiting

IN YOUR

own

MILL

ERIK EKHOLM

was virtually born into the woodpulp industry. He is the third generation of a line of pulp makers. When still a youngster in arms his father would take him down to the mill in Sweden. As a boy he worked in the Swedish pulp mills, later acquired a technical education and came to manage a mill himself. He left Sweden about three years ago and came almost directly to the Pacific Coast to join the growing industry here.

such a volume of suggestions, but the quality remained high and showed improvement.

Under this system a stimulating thought is kept over each box. This thought is changed every week. For example, one week the workman reads:

"Sleeping on it" won't hold down a good job, but it WILL hold down a good man. Tell us how you keep on your toes.

The next week there will be a message like this:

Wasted time, material and money means loss for us all. What's your plan to STOP it?

All around the plant is this permanent motto:

WHEN A MAN SAYS A THING CAN'T BE DONE HE IS USUALLY INTERRUPTED BY SOME ONE DOING IT.

That motto has become a plant slogan. The men seem to have taken to it and they keep it alive. A good many instances have come to the attention of the management where the slogan has been employed actively in the daily affairs of the mill. It injects an element of contest in the force and gives the man who is inclined to be backward some tangible excuse for bringing out his idea.

Our suggestions are all carefully read by a committee of judges and the prize awards are posted prominently. Suggestions are welcomed on any subject, altho most of them run toward mechanical improvement of the plant and simplification of operations. We have been able, thru the Suggestion Box, to find out what the men are really thinking about. The men have a chance to air their views anonymously—for the suggestions bear only key numbers and no names—and know they will get a hearing.

We have been surprised at times at the nature of the suggestions. Sometimes we get one that suggests a change that has long been desired, but which defied a satisfactory solution. One such suggestion had to do with changing a conveyor line. We had given the problem much thought, but unconsciously had always attacked the problem from the same angle. The welcome suggestion brought a new viewpoint, presented a very simple solution which was effected that very same day at a small cost, saving the company considerable money that it had been prepared to spend for a change less satisfactory. That was a concrete case of multiplying brainpower.

Some of the suggestions are, of course, impractical. They may seem good to the workman who is closest to that particular job, but other factors may outweigh its value, factors about which the workman probably is not aware. But we do not look for a revolutionary suggestion every time. The fact that the man has made the effort to contribute his idea shows that he is thinking, and that is the big result we are after.

A large number of ideas turned in show real concentration on the part of the workman. We get some that are written out in considerable detail with reasons advanced for making the changes, and often with pencil sketches showing realignment of equipment to get better results.

In connection with the Suggestion Box we have adopted a modified plan of submitting certain questions to employe vote. For example, we received one suggestion on a revision of working hours. This was a subject which we felt ought to be put up to the employes. Imagine the surprise when the revised working schedule was voted down with but one opposing vote.

A dissatisfied workman is an inefficient workman. We do not favor the policy of keeping wages down to the lowest minimum, but prefer to keep passing back to the employes in the form of increased wages substantial portions of the savings they help to effect thru their suggestions. Reference is made not to individual increases, but to a general grading upward of wage levels. We are sold on the idea that a crew that is pulling together can perform many little economies for the management, simply because the workman gets a new slant on his job, knows the boss is interested, wants him to use his noodle and is giving a square deal.

Those Alaska Projects

Prospects for the development of two big paper mill projects in Alaska in the near future were still somewhat hazy as this issue closed for the press, but some definite action may be taken during the current month.

It will be recalled that in 1927 the federal government granted two preliminary permits for exploitation of pulp timber and water power resources in the Tongass National Forest of Alaska, each of which looked toward the establishment of a paper mill of not less than 200 tons initial capacity within five years. These original permits were for two years, but were extended in June, 1929, for an additional year, to expire June 16, 1930.

The Northern concession was granted to George T. Cameron, publisher of the San Francisco Chronicle, with whom is associated Harry Chandler, publisher of the Los Angeles Times. The Southern concession is held by I. and J. D. Zellerbach, officials of the Crown Zellerbach Corporation, the Pacific Coast's leading paper institution.

While the principals have been reluctant to discuss the possibilites of Alaskan development prior to the granting of the final permits, there is evidence, nevertheless, that the surveys of timber and power which have been conducted jointly by the Zellerbach and Cameron interests during the past three years have indicated the feasibility of the projects.

On May 20 the Cameron group was issued a preliminary permit by the Federal Power Commission to develop 23,000 HP, a project involving a 15,000-foot tunnel which would tap the lately-discovered Lake Dorothy below its level and carry the water to a power house on Taku Inlet, from which location power lines would carry the energy to the vicinity of Juneau. It is believed a final permit will be sought before June 16.

No site has been announced officially, but it is believed that the Snettisham location has been definitely abandoned, perhaps largely due to its distance from any sizeable community. It is about 30 miles from Juneau. Several sites have been considered near Juneau, among them the old mining town at Thane. Another is on Douglas Island, just across Gastineau Channel from Juneau. This site could be joined to Juneau readily by a bridge about 800 feet long and the authorities seem willing to cooperate in the building. Sentiment at Juneau among business leaders is apparently for hearty cooperation with the paper mill enterprise.

From all street discussion the prospects of development near Ketchikan by the Zellerbach group are less favorable for early maturity than with the Juneau project. Here, too, the enterprising citizens of Ketchikan are displaying a readiness to cooperate with the Zellerbachs. In late May a group of Ketchikan men headed by Mayor Norman R. Walker journeyed south to San Francisco and were closeted with the Zellerbachs. Following this interview the Ketchikan party seemed optimistic. Mayor Walker was quoted in the daily press as announcing the completion of plans for construction of the Alaska mill. Accompanying Mayor Walker were W. A. Bates, cashier of the Miners and Merchants Bank, L. O. Gore, attorney, and M. J. Bucey, prominent business man.

Form Eastern Washington Forestry Conference

Plans were made May 21 at a meeting in Spokane, Washington, to formulate an Eastern Washington Forestry conference, its purpose to be educational. Members, representative citizens of Spokane and the Inland Empire, are to take back from the meetings, to their own group, ideas on fire prevention, taxation, pest control, reforestation, conservation and all other questions pertaining to the good of the forests that the public may become more alert to the need of preserving the timber.

The movement is sponsored by the Timber Products Bureau of the Spokane Chamber of Commerce. R. L. Bayne of the Timber Products Bureau and also of the Weyerhaeuser Sales Company, presided.

Talkies Create New Insulation Demand

J. M. Kamps, sales manager for the Insulite Company of Minneapolis, a subsidiary of the Backus-Brooks organization, was a recent visitor to Vancouver, B. C., accompanied by W. J. Mabon, the company's representative in Washington and Oregon.

"We are now building a big unit in Finland to take care of the European market," said Mr. Kamps, who was making his first visit to the Pacific Coast. "Out here is the natural outlet for the Far East and the Australian market. There may come a time when we will feel justified in establishing a plant in the Pacific Northwest."

Mr. Kamps said that the advent of talking pictures had created a new field for insulating board possessing sound deadening qualities. He said his company was now working on a special acoustical material made of wood which would absorb sound and become a valuable contribution to the making and showing of talkies. Experiments in this connection were now being carried out, with satisfactory results.

Powell River Has New Phone Service

Now that Powell River is linked with Vancouver by radio telephone long distance conversations are becoming the fashionable thing in the paper town. Percy Sandwell, Powell River Company's resident engineer, spoke directly to W. S. Hodges, Pacific coast representative of the Appleton Wire Works, Wisconsin, a few days ago.

Andrews Addresses Newspaper Publishers

Harry Andrews, mill chemist of the Powell River Company, has gone to West Baden Springs, Ind., to address the mechanical conference of the American Newspaper Publishers Association. This is regarded as an unusual compliment inasmuch as the west coast is seldom called on by this association for speakers on technical subjects.

Mr. Andrews, however, has been carrying on pioneer research work in connection with the penetration of ink upon newsprint, his objective being to determine a standard that will represent the highest percentage of service and effect from both ink and paper.

It is one of the contentions of Mr. Andrews that while the nature of the particular newsprint employed may in some degree affect the possibility of penetration, there can be no doubt that the nature of the ink used and the temperature at which it is actually applied are of infinitely more importance in controlling penetration than is the actual character of the newsprint itself.

In this connection Mr. Andrews points out that quite apart from the question of actual penetration there is also the possibility of an apparent show-through by reason of the semi-translucent qualities of the paper.

Photo by King, Port Angeles

NEW PORT ANGELES MILL NEARS COMPLETION

When this photograph was taken late in May the major construction on the new 175-ton bleached sulphite pulp mill of the Olympic Forest Products Company at Port Angeles, Washington, had been completed and the mill was being tuned up prior to going into production. At the extreme left is seen the power house. The sawmill can be seen in behind and between the power house and the digester building. Proceeding to the right one sees the blowpits, screen room, bleach plant, and at the extreme right, the machine room.

Olympic Forest Products Begins Production

As this was written the Olympic Forest Products Company was completing last minute details prior to beginning pulp production in a new 175-ton bleached sulphite mill, one of the finest mills ever to be built. The management had scheduled the sawmill and cut-up plant to begin cutting on June 2, with the pulp mill to begin its first cooks a week later on June 9.

The mill construction program has been carried thru with unusual dispatch. Actual work on the ground did not start until the first week in October last year, making the total construction period cover only eight months.

The site is on the shore of the Straits of Juan de Fuca in the Port of Port Angeles, about two miles east of the main business section of that thriving little city. A creek flowing into the sea at this point has scooped out a little valley and created tide lands that will provide the mill with ample territory for expansion of its properties at any time in the future.

The Olympic division of the Milwaukee Railroad passes right thru the mill property and spurs have been built in between the mill buildings and out to the dock to facilitate the handling of incoming and outgoing shipments, both by rail and water. At present an electric dredge is deepening the harbor immediately in front of the huge mill dock and pouring the soil behind bulkheads to create solid land in under the several mill buildings. These structures all rest on solid pile foundations.

The site was first developed during the World War by the federal government and was improved by a sawmill which was to produce Sitka spruce for airplane use. Not a stick was produced by the mill and it stood until the Olympic Forest Products Company began developments last year. The company has made use of some of the old buildings in a modified way. A brick structure has been converted to a modern steam plant housing some 16,000 boiler H.P. capacity, operating under a head of 450 pounds, and two General Electric turbo-generators. The steam plant was rushed thru to an early partial completion and has been furnishing stand-by power to the Washington Pulp & Paper Corporation 300-ton news print mill since mid-April.

Some of the old spruce mill buildings have been adapted for use by the new sawmill, but all of the buildings housing the pulp plant proper are new. These latter include a digester house, screen room, bleach plant and machine room, all of which are of concrete and steel construction. Stock chests and blowpits are of wood and are for the most part constructed outside the buildings.

The new mill brings many innovations and improvements into Pacific Coast pulp and paper manufacturing. It employs a higher steam pressure in its power plant and perhaps attains a higher degree of steam economy than any other plant now on the Coast. In cooking, the Chemi-Pulp system is employed, the first installation on the Coast. The screen room employs only flat screens and knotters and is designed to give a most thoro washing to the pulp.

One of the outstanding features of the new mill is the Minton Vacuum Dryer in the machine room. This machine, fabricated in the shops of Rice, Barton & Fales, paper machine builders, is the first installation of a vacuum dryer to be made on the Pacific Coast for drying any kind of product.

The new Olympic Forest Products Company mill in operation is designed to saw only the highest grades of lumber from Western Hemlock. Exactly what these grades are will most likely be determined by current lumber quotations. The balance of the log will go thru a wood cut-up plant to be prepared for pulp.

The pulp mill will begin production on unbleached pulp and will not bring its bleach plant into operation until the preliminary kinks are ironed out, as is necessary in any new mill.

Pulp production will be under the supervision of Benjamin Larrabee, who came to the Pacific Coast a few months ago from the S. D. Warren Company of Maine, which company will be a principal customer of, and is financially interested in, the new Port Angeles mill.

The Olympic Forest Products Company has completed for the City of Port Angeles an industrial water system eight miles long. The water is diverted from the Elwha river west of Port Angeles, is carried thru a tunnel and along the beach thru the city. It diverts

100,000,000 gallons daily. Of this amount 40,000,000 gallons is delivered to the new pulp mill under long time contract, and other portions are diverted to the Washington Pulp & Paper Corporation and the Fibreboard Products, Inc., board mill.

At the pulp mill the California Filters Company has built a most complete filter plant on the bluff just above the pulp plant. By giving the pipe line flow a slight boost the water is delivered to the filter plant and from there provides a natural head for use in the pulp mill. The filter plant was installed under the supervision of Kenneth Shibley.

The four Kuppler brothers who constitute the contracting firm of Chris Kuppler's Sons, have wound up their main job at the Port Angeles mill, where they had contract for the major building construction and made some new records in building.

LAWRENCE W. KILLAM

Honored

Killam Wins Honorary Award

There was a special reason, previously unannounced, for the visit this summer of Lawrence W. Killam, president of B. C. Pulp & Paper Company, Vancouver, B. C., to the East. At the convocation honorary degrees at Mount Allison Academy and University in Sackville, N. B., was conferred upon five men, among whom was Mr. Killam, a graduate of 1899 and a former professor at the university.

Changes In Crown Mills

Several changes in personnel of the Crown Willamette Paper Company's mills were effected June 1.

J. E. "Jack" Hanny, for the past four and one half years manager of the company's West Linn mill, became mill manager of the Camas plant, to be succeeded by C. E. Bruner. Lyman Smith resigned as manager at Camas. Roy O. Young, who has been acting as general manager at Camas for the past year or more during the mill reconstruction period, has been transferred to the Portland office of the company.

Several other changes have been effected. James Fagan has resigned as sulphite superintendent at the Camas mill and is now with the new Puget Sound Pulp & Timber Company at Everett where he will be assistant sulphite superintendent. Mr. Fagan is succeeded at Camas by S. A. Salmonson, who has been sulphite superintendent at West Linn for the past three years.

Jan Haugerud has been moved from Camas to West Linn to take charge of sulphite production. M. W. Phelps will direct the chemical laboratory at Camas.

Mr. Hanny began his training with the Crown company as a draughtsman. Following some service at Camas as assistant master mechanic he went to Ocean Falls, B. C., when Crown took over Pacific Mills Ltd., later becoming general superintendent of the northern mill.

Upon leaving West Linn Mr. Hanny was tendered a golf set by his mill colleagues. A. Bankus of the San Francisco office of the Crown Zellerbach Corporation was present and spoke in laudatory fashion about the transferring mill manager. In the week prior to establishing his official residence in the company house at Camas Mr. Hanny spent a good deal of his time at his new location holding conferences.

Mr. Young recently returned from a business trip to Texas and will now have executive duties in Portland which will include a general supervision of the company's northwest mill activities.

Clarence E. Bruner has been an employee with Crown for about 35 years. He has risen to his present position of mill manager at West Linn from the lowly starting point of day laborer. His long period of service has taken him thru practically every department of the mill. He was appointed assistant superintendent in September 1923 and later became general superintendent.

Mr. Smith, who has resigned at Camas, has stated no future plans but will take advantage of the present opportunity to make a trip to Yellowstone.

Building Small Board Mill At Salem

The Western Board Products Company is proceeding with the construction of a small mill at Salem, Oregon, and expects soon to begin production of a trunk or binder board of stout nature made from flax mill refuse and pulp mill screenings.

The project was developed in the latter months of 1929 and was incorporated for $100,000. James G. Heltzel, Salem attorney, is president. F. D. Thielsen, formerly in the paper jobbing business in Salem, is secretary. Others interested are F. G. Gilbraith, manager of the Miles Linen Company, Salem. It is from the Miles factory that the flax will be obtained for the new mill.

The principal figure on the operating side of the mill is F. Puttaert, formerly of San Francisco. He is bringing some equipment from California for installation in the new mill and will direct production. The plant is expected to have an initial daily capacity of about eight tons.

The project is essentially a local Salem enterprise, much of, if not all, the capital having been subscribed by Salem people.

Purchase Old Coos Bay Pulp Mill

The Port Orford Cedar Products Company of Marshfield, Oregon, in the Coos Bay district of the Oregon Coast, has purchased the old buildings of the Coos Bay pulp mill. These buildings were erected during the war but the mill got away to an unsatisfactory start and never got into real production. The buildings have long stood idle, having long ago been dismantled. Some of the equipment is today doing duty in other Pacific Coast pulp mills.

A. E. Adelsperger, president of the Port Orford Cedar Products Company, declines to comment on the purpose to which the buildings are to be put. Rumors are current in the Coos Bay district, however, that the manufacture of a new type of insulating board will probably be undertaken.

New Everett Pulp Mill Ready

The current month will see one of the Pacific Coast's finest and newest pulp mills get into production when the Puget Sound Pulp and Timber Company begins operations at its 175-ton bleached sulphite plant at Everett, Washington. Last minute advices before this goes to press scheduled the wood room and sawmill to begin cutting on June 12. The Jennsen acid system was to be started about the same date and the digesters were to get their first steam on June 17. By June 19 preliminary production will be in progress and processes carried out as far as the stock chests.

Practically all construction had been completed by June 1 and the finishing crews were being pushed to tune up the mill prior to getting into production. The machine room was somewhat behind the rest of the plant at the first of the month. The room itself was entirely complete and the bed plates had been set for the two Swedish fourdrinier pulp drying machines. Some consignments of parts of the machine room installation were delivered at Everett some weeks ago, and the principal pieces were delivered at the company's own deep water dock just as May closed. All efforts were immediately bent to assemble the machines and the management announced as this was written that the machine room would permit the production of finished pulp in quantity by June 28.

The new industrial water line being brought into the city by the City of Everett is fast being completed altho it will probably not be able to begin delivery of water at the new pulp mill to take care of first production. This will in no way handicap the mill, however, as the situation is temporarily taken care of by the present city system. The reservoirs are full and the company has had several millions of gallons available daily for some time. The California Filter Company has installed a big plant for treating the water.

The completed set of buildings present an imposing appearance. The construction is of first order, concrete, steel and brick being employed liberally. The work has progressed steadily since the start last year under Resident Engineer J. McCarthy, who is supervising the building for Hardy S. Ferguson and Associates, designers.

The sawmill and wood room will be an innovation on the Coast. The motivating idea in this department is to cut up the log as little as possible and to use only logs, no waste, to the end that the best and cleanest wood goes to pulp. The chippers have been specially designed to meet this need and are provided with spouts capable of taking up to 24-inch squares.

With an eye to producing the highest grades of clean pulp the screen room has been fitted with an unusually large number of flat screens and the flow of stock provides for liberal washing in the process.

In the bleach plant construction has kept current with the rest of the mill and in the layout the management again has sought to provide the latest in developments.

The original plans for the company's dock have been slightly revised and a rail spur connecting directly with the Great Northern main line has been run to ship side to facilitate handling of general cargo from and to ship and rail.

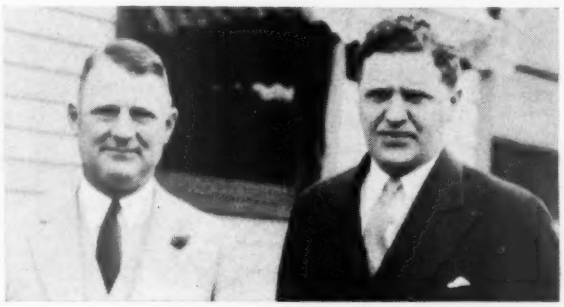
President Ossian Anderson has returned to Everett following a trip East in May.

Manufacturers and distributors of kraft papers in Canada last month cut from ¾c to 1¼c per pound off their prevailing prices.

St. Regis Now Owns Tacoma Kraft Mill

Following the announcement last month of the sale of Union Bag & Paper Corporation's subsidiary, the Union Bag & Paper Power Corporation, to the F. L. Carlisle controlled Niagara Hudson Power Corporation, the St. Regis Paper Company—also Carlisle controlled—announces the creation of a new subsidiary, the Pacific Pulp Mill Corporation, which has acquired the Union Bag kraft pulp mill at Tacoma, Washington.

President C. R. McMillen of Union Bag & Paper Corporation last month announced that sale of the subsidiary company would enable a much-desired strengthening of the company's financial position. The continued depression in the kraft paper market has worked a hardship upon Union Bag. President McMillen stated that with present kraft paper prices it was cheaper for the company to concentrate upon their bag manufacturing business and to buy their paper requirements on the open market.



Resident Manager W. W. Griffith (left) poses with Nels Teren, general manager of the kraft mills of the St. Regis Paper Company, during the latter's visit to the Pacific Coast.

Nels Teren, general manager of the kraft mills of the St. Regis Paper Company, returned to the East the middle of May following a visit of several week's duration to the Coast. He has been on the Coast on several previous occasions and is enthusiastic about the Western country and its industrial prospect.

Mr. Teren, while on the Coast, acted for Mr. Carlisle in handling local matters in transferirng the ownership of the Tacoma kraft mill. He stated that no changes were contemplated at Tacoma and that present staff's would be continued. W. W. Griffith, who has been resident manager since the inception of the mill, will continue in that capacity. L. R. Wood, resident engineer, Dennis Cousins, general superintendent, will continue in those positions.

The pulp will in the future go to the Eastern paper mills of the St. Regis Paper Company.

The bag factory established a year or more ago by Union Bag & Paper Corporation at Vancouver, Washington, in connection with the F. W. Leadbetter's paper mill, the Columbia River Paper Mills, remains in the hands of the parent Union Bag organization. Up to the time of the recent sale it was under the jurisdiction of Mr. Griffith of the Tacoma mill.

Crown Willamette Declares Dividends

The Crown Willamette Paper Company declared the regular quarterly dividend of $1.75 per share on the first preferred stock payable July 1 to stockholders of record June 13. Directors also declared the regular quarterly dividend of $1.50 per share on the second preferred payable the same dates.

Should PULP *be—*
Shredded
Corrugated
or
Smooth-Pressed
? ? ?

*A Discussion**

By ROGER J. EGAN

Sales Representative, Bulkley, Dunton & Co.
Associate Member, TAPPI

GIVEN in the form of a question is the title of this paper—Should Pulp be Smooth-pressed, Corrugated, or Shredded? Is there a direct answer and a general answer that will apply to each and every case? There has been much interest in this question and there are many conflicting views and theories. I have had some lengthy discussions at various mills, and the answers have by no means been uniform. One mill man said he found under his conditions the form in which the pulp came did not materially affect his operation. Another replied that he could not use corrugated sulphite in his one stage bleachers because it did not disintegrate fast enough, resulting in a flaky appearance in his bleached pulp. Another mill tabooed corrugated pulp for lack of capacity to defibre it. Another mill expressed a preference for shredded pulp because it furnished and disintegrated quickly. Another mill claimed that shredded pulp didn't help them under their conditions. Mr. Whittington, being with a board mill, has a problem which is very different from the problem encountered by Mr. Milham in a book mill, and Mr. Bardeen has an entirely different problem again in a fine paper mill.

Rather than attempt an answer which would be too general to be of value to all, my purpose is to present facts and viewpoints which will enable you to correlate known conclusions with your own conditions.

We will consider first the history and evolution of the various ways of packing pulp, then a brief summary of the different processes. I think it would be well to look into the problems encountered by the manufacturers of pulp, and finally, review the experiences of pulp consumers to evolve for ourselves a yardstick for future guidance.

*Presented before the Interstate Meeting of the Paper Technologists Club of Kalamazoo, May 23, 1930.

Let us first get straightened out with each other as to just what we are trying to find out. Are you interested in whether a pulp is shredded or corrugated or smooth, unless that form of drying affects the results in your mill? No. Therefore, we will have to go further and deeper into the subject—below the surface, and find out what the direct and indirect effects are on your paper and its cost.

History of Drying Methods

When woodpulp manufacture first started in this country back in 1850, and shortly thereafter, the pulp mills were built to supply only adjacent paper mills. This pulp was used in slush form and there was therefore no drying problem. Subsequently, pulp mills were built closer to woodlands and further away from the paper mills. This introduced a shipping and handling problem, making it necessary to put the pulp in laps or thick sheets.

From this start, and to counteract the economic loss in shipping water in the pulp, methods of drying were evolved. Then improvements of drying were introduced, and along came the corrugated sheets. At the same time, consuming mills were grappling with the problem of getting the pulp back into slush form. Shredders came into use to break up the hard dry sheets. In 1926 the first so-called Shredded Pulp came on the market—that is, the first pulp to be shredded at the place of manufacture. The idea was conceived in 1925 in conjunction with an idea for hot air instead of cylinder drying, but it is only four years ago that Shredded Pulp became an accomplishment.

The latest development is a smooth-pressed sheet dried in hot air chambers instead of over drying cylinders.

The Various Processes

Pulp sheeting and drying is not very different basically from paper forming and drying—in fact some pulp mills use what is practically a paper machine. The usual process in a smooth-pressed sheet is to form the sheet on a cylinder or fourdrinier wire, pass it through one or more presses and then to the drying cylinders.

The method used on corrugated pulp differs only in

the pressure applied at the presses and the use of grooved rolls instead of smooth faced rolls. Some machines have two presses both with grooved rolls, others one or two smooth rolls followed by a high pressure grooved roll. The reason for the corrugating (using the grooved rolls) is to facilitate the run of water off the press. This makes possible the use of high pressure with the result that when the sheet goes to the drying cylinder it has less water in it.

One Swedish mill informs me that the fibre content of their sheet after it leaves the second felt press is 37% to 39%. The third press in this mill is their high pressure grooved roll — and after the pulp passes through this third press the fibre content is 48% to 50%. You can appreciate what this 10% to 12% less moisture means in drying.

The shredded process as now used consists of two stages in series, first one of the usual types of wet machine forming a sheet 40% to 50% fibre—the balance water. This sheet is then shredded, the shreds dropping to a continuous screen-belt conveyor similar to a fourdrinier wire except that it is about 14/16 mesh. This continuous screen-belt conveyor passes slowly through a drying chamber where hot air is forced through the shreds, thus drying them out. At the end of the screen the pulp drops to a bin and is subsequently baled.

Pulp Manufacturer's Viewpoint

As a consumer of pulp are you interested in the manufacturer's point of view? I think you are, because you realize that the solution of his problems influences the quality and the cost at which pulp can be delivered to you. A low manufacturing cost will revert to the benefit of the consumer under free competition and normal economic conditions.

Broadly speaking, the pulp manufacturer is interested in making the most acceptable pulp at the lowest possible cost. In considering a drying method, therefore, he must weigh the values of each method according to quality and costs.

The quality questions arising are strength loss and salability of the product. The strength loss in drying will vary according to the pulp made and the particular equipment used, but for comparative purposes I have obtained some actual figures from pulp manufacturers.

Practically no loss is reported on a wet lap pulp—on a shredded hot air system used on a sulphite pulp 6% loss, on a shredded hot air system used on a sulphate pulp 5% loss, on a cylinder drying system used on a sulphate pulp 10%, and on a cylinder drying system used on a sulphite pulp 12%.

It might be well to mention here that this loss in strength is due both to the pressure applied and to the drying temperature. How much of the loss can be allocated to each is a question on which I do not believe there is much data. The strength just referred to is Mullen pop strength. It is the opinion of some technical men that the effect on the folding strength is even more severe.

The installation cost will vary according to the size and capacity of the equipment. Opportunities to purchase equipment "bargains" will also effect an installation cost, but for comparative purposes I think that on a shredding installation a 20% to 30% saving can be effected as opposed to a cylinder dryer. The corrugated installation cost will exceed the smooth-pressed, but not materially.

Operating costs in different mills will show a wide variation, but considering the cost of drying, the operation and maintenance of the machines as one total cost item, the lowest cost method will probably be the shredded system, next the corrugated, and the highest total cost the smooth-pressed. Once a manufacturer has installed a particular drying method, a change to another method would be costly.

A very important item of costs is the freight that has to be paid to deliver the pulp to the mill of the consumer. Chart No. 1 shows the effect of shipping water in the pulp.

Consumer's Point of View

Each type of pulp has its advantages and disadvantages, the importance of which will vary under different conditions. These advantages and disadvantages must be weighed by the individual producing or consuming mill to fit their own circumstances. The manufacturer would save money by making a wet lap instead of a dry pulp, but if the market for his pulp were at a distance, the added freight cost would far outweigh the savings. Conversely, the consumer might prefer the wet lap pulp, but the freight cost of getting the pulp to his mill might outweigh the cost of disintegrating a dry pulp.

Chart No. 1

EFFECT OF MOISTURE VARIABLES ON FREIGHT COSTS

Air Dry %	Freight Rate per 2,000 Pounds $4.00 Basis	$6.00 Basis	$8.00 Basis	$10.00 Basis	$12.00 Basis
	Freight Cost per Air-Dry Ton of 2,000 Pounds				
40	$10.00	$15.00	$20.00	$25.00	$30.00
60	6.66	10.00	13.33	16.66	20.00
80	5.00	7.50	10.00	12.50	15.00
90	4.44	6.66	8.88	11.11	13.32
100	4.00	6.00	8.00	10.00	12.00

There is one point that I would like to bring in here, to avoid ambiguity. The term "beating" is rather a utility expression not always clear in what it includes. I prefer to segregate the so-called total beating time into three elements. First, there is the period of disintegration, which lasts from the time furnishing is started up to the time the pulp is completely defibered and the roll set for action—let us call that the disintegration period. Second is the period of action in the beater up to the dumping time. We will call that the actual beating period. Third is the period, or rather process, of further refinement by Jordan—we will call that the refining period.

As far as beating is concerned, the use of any one type of pulp will influence the disintegration period only. There may be a few specific conditions under which the use of one type of pulp may be inadvisable, but for most mills the influence of the type of drying and packing can be estimated in dollars and cents. I think you will find that any difference in the value of the various types of pulp will be a small part of the total cost of the paper.

After we have so evaluated each type of pulp for its influence on costs in the disintegration period, does it follow that a smooth or corrugated pulp will beat up quicker in the actual beating period?

To clarify this point, I have submitted a series of samples for a laboratory test (the usual laboratory handsheet method being used) and have charted the results. Chart No. 2 is a comparison of two corrugated sul-

phites. These pulps are quite different in their curve—but they are both corrugated. Chart No. 3 is a comparison of two smooth-pressed sulphites. To say that one or the other of these pulps is stronger would be a precarious assertion, unless you bring in a time element. Chart No. 4 is a comparison of two shredded pulps. One you will note, develops a better early strength than the other. Chart No. 5 is a comparison of a smooth-pressed with a corrugated. Grade G is the corrugated and while it is not materially stronger from the point of view of its maximum strength, at certain periods it is much stronger.

Both curves on Chart No. 6 are of the same pulp—a corrugated kraft—the comparison being at different periods of time, before and after changes were made in the cooking process.

I think that these charts clearly illustrate the point that each grade of pulp will have a curve according to the way that particular pulp is made, and in some cases regardless of the way it is packed. In other words, a Mitscherlich pulp of high strength will be a Mitscherlich pulp of high strength regardless of how it is dryed or packed. Then how are we to decide what pulp is required for a particular condition?

Chart No. 7 lists the variables that we ordinarily run into. I have listed the four types of pulp according to the general (and I am also inclined to believe theoretical) opinion of the older in which they are most desirable. On the right I have listed the variables which must be accounted for in each and every type and also the variables in the consuming mill which will affect the results obtainable from a pulp.

CONSIDERING THESE ITEMS IN DETAIL:

The product. First and foremost, we must always keep in mind the product to be made—that is, the desired goal. A sheet of paper known in the trade as a certain grade may be quite a different quality of product in different mills.

Beater furnish. Each mill has its own formula for beater furnish on a particular grade. The results obtained from two pulps may be almost identical in one formula, but widely different in another formula. Also some pulps react differently when the percentage of pulp in the furnish is changed.

Time allowance for beating. Many mills have a very limited leeway in the time allowance for beating. This must be taken into consideration in evaluating a pulp—what results can be obtained in the time allowed?

Refining equipment. Beaters and jordans and methods of handling them are probably not exactly alike in any two mills in the country. This factor must also be applied in our evaluation.

The types of pulp. Once a pulp has passed the disintegration period, the form in which it was pressed has no influence on the beating. Therefore, the type of pulp influences the disintegration period only. This influence, expressed in dollars and cents, will vary according to the length and severity of the total beating period, power consumed, etc.

Moisture content. It is a recognized fact that the greater moisture content, the quicker the disintegration and the more likelihood that the wetter sheet (of the same pulp) will reach its maximum strength in a quicker time. I believe it is also true that the greater the moisture content (of the same pulp) the less pronounced you will find the difference between the various types.

Beating curve. Consideration of the beating curve brings up the question of whether a pulp will reach a desired strength within a specified time. As illustrated

Chart No. 2
CORRUGATED SULPHITES

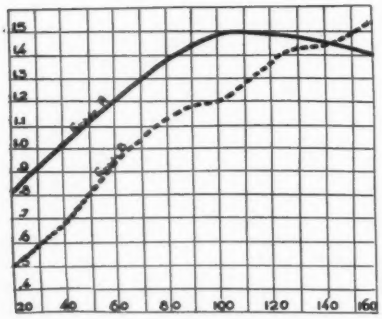


Chart No. 3
SMOOTH PRESSED SULPHITES

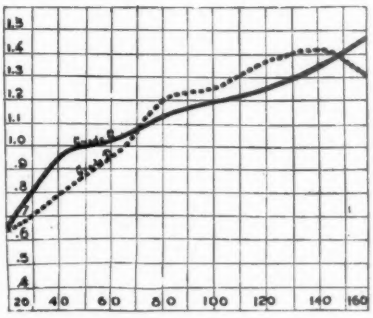


Chart No. 4
SHREDDED SULPHITES

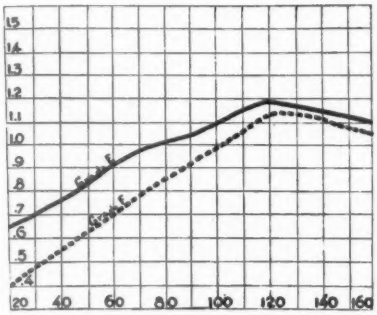
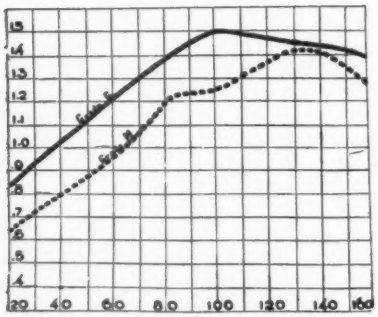


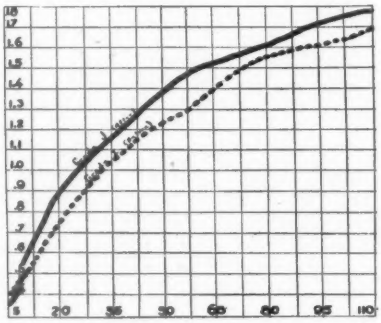
Chart No. 5
COMPARISON OF CORRUGATED WITH SMOOTH PRESSED



Vertical distances plotted in Mullen points per pound.

Horizontal distances plotted in beating time (minutes)

Chart No. 6
A CORRUGATED KRAFT BEFORE AND AFTER PROCESS CHANGES



in charts 2, 3, 4, 5 and 6, it is shown that different brands of pulp will differ in their curves. If your total beating time is very short, say 20 minutes for disintegration and actual beating, you will have to place more importance on the disintegration period than a mill beating three or four hours. In a 20-minute period you will get much more actual beating on a shredded pulp than on a corrugated pulp. You might find you can develop, say 30% of the maximum of that shredded pulp, whereas you could develop only 5% of the maximum strength of the corrugated pulp.

Chart No. 7

THE EVALUATION OF A PULP

Types of Pulp	Variables to Be Evaluated
	In Pulp
Wet Laps	Moisture content
	Beating curve
Shredded	Fibre characteristics
	Price
Smooth-Pressed	
	In Your Mill
Corrugated	Product to be made
	Beater furnish
	Time allowance for beating
	Refining equipment

These particular charts are for pop strength only. If your evaluation of a pulp is based on tear, tensile, folding or beater value charts, it will be necessary to have these figures as well.

Fibre characteristics. This is also a much abused term, but broadly speaking, it applies to hardness or softness, pliability or brittleness, length, color.

Price. The price, f. o. b. shipping mill or ex-dock is only part of the picture. To refer again to Chart No. 1, suppose that you were considering two pulps which were obtainable at the same pirce on dock Baltimore but one of which was 80% air-dry and the other 100%. The freight rate from Baltimore to Kalamazoo is about six dollars and by reference to the chart we find that the 80% pulp would cost $1.50 more per ton of pulp in Kalamazoo in spite of the same price at the point of shipment and the same freight rate. You are interested in what a specific pulp will cost you at the beater, and even further than that — what it will cost you in the head box ready to run out over the wire into the sheet that you want.

CONCLUSION

We have found that the form of drying and packing influences only a small part of the total process of manufacture, and likewise influences only a small part of paper making, with the exception of rare instances. I think that in answering this question of whether a pulp should be smooth-pressed, corrugated or shredded, we should therefore bear in mind that for practical purposes we must not permit the answer to influence us beyond the actual influence that it will actually have in the product that you are going to make. If you want to buy a car, you might have a set idea in your mind that you want a "V" shaped motor and down draft carburetor, because you consider them the best type of motor and carburetor. If your final decision were narrowed down to two cars, one of which you liked in every other respect but the carburetor and the type of motor, and the other you liked in no respect except the carburetor and type of motor, I think you will agree with me that you would not purchase the second car.

The question is a complicated one. It does seem rather a paradox that pulp is formed into a sheet, pressed out, dried and baled, only to be shipped to a mill to be separated, put into water, disintegrated, and defibred back to the form in which it started. This circle of action is a costly one for the pulp and paper industry. I believe that shredding of pulp is a short cut—and I also believe that before many years, we will have pulp shipped in dry fibre form, baled like cotton. Until such an Utopia is reached and all the "bugs" are ironed out to make it practical, we will all have to contend with the problems we have today.

I mentioned that the latest development to date is the hot-air-dried smooth sheet. This may be the most practical solution of the problem, but of course, we will have to judge this after the pulp has been in use for a period of time. The manufacturers of pulp are constantly studying and considering this problem to produce a pulp that will be most desirable to the paper mill. To counteract the effect of corrugation some mills have installed special rolls, the purpose of which is to soften the pulp by passing it between rolls that make corrugations at right angles to those first made.

Early in this paper I said that in considering this question of whether a pulp should be smooth-pressed, corrugated or shredded, we would endeavor to evolve for ourselves a yardstick for future guidance. I think you will agree with me that the only logical conclusion, and the only logical answer to the question, is that our yardstick will have to be a slide-rule.

When Mr. Egan brings up the question, "Should Pulp be Shredded, Corrugated or Smooth-Pressed?" he touches upon a subject that has caused considerable discussion and correspondence between pulp mill and paper mill. Present pulp manufacturers and those who may be contemplating the manufacture of pulp for sale may find some profit in weighing the points brought out in this article against any future installations of pulp drying equipment.

Hawaiian Sugar Industry plans to build a big Insulation Board Mill

HAWAII'S five leading sugar plantation agencies and a group of prominent Honolulu and Hilo business men joined recently in the incorporation of Hawaiian Cane Products, Ltd., which has an initial capital of $200,000, shortly to be increased to $2,250,000, with a limit of capitalization at $10,000,000. The purpose of the enterprise is to convert the thousands of tons of bagasse, produced annually by the island sugar industry, into a useful product-fibre insulation board.

With the raising of capitalization to $2,250,000, steps will be taken to erect a $1,250,000 manufacturing plant on a 22-acre site adjoining the property of the Waiakea Mill Company near the city of Hilo, island of Hawaii, largest island of the Hawaiian group.

Services of a highly qualified production manager from among experts in that line on the mainland will be sought, and a large sales organization will be formed with principal headquarters at San Francisco.

At the first meeting of stockholders and directors at Honolulu, negotiations were completed for the aquisition of the old Hawaii Cellulose, Ltd., formed some time ago by a group of Hilo business men for the manufacture of bagasse fibre products. This concern did not get much further than the purchase of a site. The new company proposes to build upon that site.

Initial production of Hawaiian Cane Products, Ltd., will be limited to insulation wallboard. The local company is looking toward the Orient as a prolific field for its products.

There is to be a laboratory in connection with the factory for the development of other uses for bagasse, cluding rayon, containers of various kinds, boxes, paper and paper products, and synthetic lumber.

This will be the first time in the history of the Hawaiian sugar industry that bagasse has been utilized on a large commercial scale. It is interesting to note that on the island of Hawaii, where the plant is to be located, almost as much bagasse is produced in a single day as becomes available in the entire United States in a like period. In addition, bagasse will also be available from sugar mills on three other islands.

John E. Russell, managing dierctor of Theo. H. Davies & Co., old established Honolulu mercantile firm which is agent for many sugar plantations, has been elected as president of the new corporation, and Theo. H. Davies & Co. will act as its agents.

The other officers are Walter F. Dillingham, president of the Oahu Railway & Land Co., vice-president; Harry Edmondson, attorney for Theo. H. Davies & Co., secretary; and C. J. Henderson, assistant to Mr. Russell, treasurer.

In addition to Mr. Russell and Mr. Dillingham, the following comprise the board of directors:

George H. Angus, director and department manager of Theo. H. Davies & Co.; John Waterhouse, president and manager of Alexander & Baldwin; Allen W. T. Bottomley, president of American Factors and of the Bishop First National Bank at Honolulu; Horace Johnson, vice-president of C. Brewer & Co.; Frank C. Atherton, president of Castle & Cooke; Robert W. Atkinson, vice-president and manager of the Hawaiian Dredging Company; and W. L. S. Williams, manager of the Waiakea Mill Company, and one of the incorporators of Hawaii Cellulose, Ltd.

The incorporators of the new company are Richard A. Cooke, president of C. Brewer & Co.; Atherton Richards, treasurer of Castle & Cooke; and Messrs. Angus Waterhouse, Bottomley and Dillingham. Articles of incorporation have been filed in the office of the territorial treasurer.

The leading sugar plantation agencies—Alexander & Baldwin, Theo. H. Davies & Co., American Factors, Castle & Cooke and C. Brewer & Co.—have each subscribed to $250,000 worth of stock in the corporation, the shares of which have a par value of $100.

Total subscription by the agencies is $1,250,000 and some of the stock is to be offered to plantations for which they are agents. These five agencies represent a total of 41 sugar plantations scattered throughout the Hawaiian Islands.

A group of business men headed by Mr. Dillingham has subscribed to a substantial block of stock, and a group of Hilo business men has subscribed for $250,000 worth. This latter group is headed by Manager Williams of Waiakea Mill Company. It is understood that the Los Angeles Steamship Company, which operates a line of vessels between Hawaii and Wilmington, California, will also acquire some of the stock.

Others who are expected to consider acquisition of shares are Hawaiian Commercial & Sugar Co., largest raw sugar producer in the territory; Maui Agricultural Company, Hawaiian Sugar Company, Hilo Sugar Company, Honolulu Iron Works, the B. F. Dillingham Company, the Oahu Railway & Land Co., Matson Navigation Company, Ewa Plantation Company and Waialua Agricultural Company.

Equipment quotations are expected to be asked for in the near future. Headquarters of the new corporation will be at Honolulu, and the Honolulu Iron Works is expected to handle the erection of the manufacturing plant and the installation of the machinery.

Contracts for furnishing the manufacturing plant with bagasse are being negotiated with the Hilo Sugar Company, Waiakea Mill Company and Olaa Sugar Company, all on the island of Hawaii.

Formation of the corporation is the second step to be taken by the Hawaiian sugar industry within the last two years for the utilization of by-products on a broad commercial scale. Recently all of the island plantations contracted with the United Molasses Company of Great Britain for furnishing 200,000 tons of molasses a year for a period of five years. For a great many years molasses was more or less of a drug on the market, insofar as the Hawaiian sugar industry was concerned, but now it is being disposed of at a good profit, and practically every gallon of molasses that can be produced can find a ready market.

Rainier Stock Listed on Seattle Exchange

Class A common stock of the Rainier Pulp & Paper Company to the number of 100,000 no par shares were listed on the Seattle Stock Exchange on June 10.

The company operates a 175-ton mill at Shelton, Washington. Its financial set-up includes, in addition to the 100,000 shares of common, 123,000 shares of no-par Class B common, which has not been listed and 12,600 shares of $100 prefered, not yet issued. It has no funded debt.

Its balance sheet as of March 31, 1930, enumerates total assets of $3,881,984; including cash in bank, $109,-945; notes and acceptances, $162,419; accounts receivable, $247,124; merchandise inventories, $566,352; machinery and equipment $1,790,998; buildings and improvements, $967,343; construction in progress, $274,-318.

Total sales for the eleven-month period ended March 31, 1930, were $2,074,111 and net for the same period, after deductions, was $450,273.

New Fibre Cigar Box

A newly-patented fibre cigar box is being manufactured by the Standard Paper Box Company, Los Angeles, and Charles Ruble, president of the company, predicts a big demand for this product, which sells for less than the wooden boxes. Special equipment is being installed by Mr. Ruble to handle the work. The Standard company are the sole licensees of the patents covering the manufacturing of this box. Mr. Ruble says that already the Cinco brand of cigars is being packed in this container.

Powell River Tug Does Rescue

The crew of the Powell River Company's tugboat Progressive were called upon recently to play the role of life savers when they were summoned to the burning wreck of a fishing craft which took fire at sea and burned to the water's edge off Harwood Island, B. C. The burning vessel was towed to Powell River but was found to be a total loss. Captain Walter Anderson commands the Progressive.

PUGET SOUND PULP & TIMBER CO.
Executive Offices
Everett, Washington

June 7, 1930.

Pacific Pulp & Paper Industry,
71 Columbia Street,
Seattle, Washington.
Gentlemen:

I was pleased to read in the daily news that the Senate had taken action to increase the appropriation for investigation of western woods at the Forest Products Laboratory from $10,000 to $25,000 and I wish to state that I do believe that this increase was largely brought about by the patient and continuous effort of your magazine in keeping in touch with the delegation in Congress and through publicity and editorials, bringing out the urgent need of this expenditure in the interest of Pacific Coast woods.

Thanking you again for your splendid co-operation on behalf of the industry, I remain,

Yours very truly,
OSSIAN ANDERSON,
President.

OA:REL

CONGRESS RECOGNIZES THE COAST

The growing pulp and paper industry of the Pacific Coast has scored another victory in its quest for due recognition. Leaders of the industry on the Coast contend that great economic losses have been suffered by the region thru a lack of knowledge how to accomplish a greater utilization of its forest resources.

Standing in the way of this greater utilization was an insufficiency of research into the potential values of these resources. When the Pacific Coast interests began to demand more study of the Western species the United States Forest Products Laboratory at Madison, Wisconsin, inserted in its budget an item for $10,000 for studies on Western woods, particularly Douglas Fir.

This amount was set down, not with the idea that it was the amount with which it could hope to initiate proper study, but as the bare minimum with which it could undertake such work and which it might reasonably hope to get.

To secure an appropriation of not less than $25,000—which sum it was agreed was necessary if research were to achieve real results—was considered somewhat a forlorn hope until attention of Western Senators and Representatives in Congress was focused upon the imperative need of raising the amount.

PACIFIC PULP & PAPER INDUSTRY took an active part in arousing an interest in the need for a greater appropriation and was ably supported by a number of the leaders of the Coast industry. The publishers are happy to have had a part in rendering this service to the Coast industry. It is a satisfaction to learn that the original $10,000 budget recommendation has been increased to $25,000, which sum was included in the bill as approved by the President.

The increase will permit a well-rounded-out program for work on Western woods by the Forest Products Laboratory, with particular emphasis on Douglas Fir.

More Uses For Wood Pulp

An advertising and sales promotion campaign to develop new uses for lacquer and other nitrocellulose products has been instituted by the Hercules Powder Company. Altho not a manufacturer of lacquer, the Hercules company produces nitrocellulose, the basic ingredient of lacquer, celluloid and pyroxylin products. The general business and industrial fields for the use of lacquer outside its use as an automobile finish are to be developed.

Lumber Depression Stimulates Cord Wood Cutting

With the Pacific Northwest lumber industry at a low ebb the supply of mill waste for pulp mill use has been curtailed in many places. With pulp mill demands for wood continuing, however, there has been some stimulation of cord wood cutting to meet the demand from another angle. This move has served not only to keep the pulp mills supplied but to absorb some of the men who have been thrown into the ranks of the unemployed due to the recent closing down of a number of big sawmills.

The Recovery of Lime Sludge

By C. R. P. CASH
Member, TAPPI

SUCCESSFUL recovery of lime sludges from the causticizing operation is one of the difficult problems which the kraft and soda pulp industries have had to contend with in recent years. Some of the early installations for reburning these sludges show that many factors necessary to the success of the operation had not been taken into account.

While all of the modern mills are equipped with lime recovery installations, many of them are not getting the results that are possible. This can, no doubt, be accounted for by the fact that lime recovery is a side issue and problems of greater importance are continually occupying the attention of the mill operators. Many kraft mills are content with a lime recovery of 75%, while soda mills regard 85% as good practice.

This is lower than can be obtained with a little care and the right equipment. Kraft mills should not tolerate a recovery of less than 90% and soda mills, especially those not using smelters, can with ease operate consistently over 95%. These figures are not based on theories cooked up in some laboratory, but are based on actual operation. The writer has operated a soda mill where the lime recovery for month after month has ranged between 95½ and 98%. Furthermore, the lime was not freshened by using recovered lime for bleaching.

Three Factors

Of course a soda mill does not present the difficulties in lime recovery that are encountered in kraft mills. The first lime recovery units were installed in soda mills and the kraft mills copied them. They received a rude awakening and about all these early installations amounted to were a nice complicated system for shooting the sludge to the sewer. However, the troubles were soon analyzed and in part remedied.

The success of a lime recovery system depends largely on three factors: (1) preventing contamination of the lime with impurities; (2) thoro washing of the sludges, and (3) eliminating physical loss of the lime. The first factor is taken care of in a large measure by settling of the green liquor. If this is done efficiently most of the injurious matter is removed. Most of the impurites in green liquor are compounds of third group metals that are largely precipitated in alkaline solutions. The fact that kraft liquors are strongly reducing, however, prevents the complete precipitation of these compounds. There is also present a certain quantity of soluble silicates.

If these silicates are carried into the kiln, and it is difficult to thoroly wash them out, they are dehydrated and fuse on the lime, building up an inert insoluble product which can only be eliminated by wasting a large quantity of the sludge with which it is intimately mixed. One system has a classifier for removing this material but the classifier can only work on that part of the contaminated lime that is so bad it does not slack and by the same token any otherwise good lime that is underburnt is discarded with it.

In a soda mill using rotaries and leachers the liquor to be causticized is nearly chemically pure sodium carbonate. If the leaching is properly done the lime-sludge will be almost pure white. One wash and a little washing on the filter is all that is needed.

It is far more important to have a thoro washing of kraft sludges because of the sulphides and sulphates present. If these get into the kiln a horrible mess of calcium sulphate and sulphide is formed and promptly more sludge has to be discarded. Liquor in the sludge also fuses the lime to the sides of the kiln and besides making a hot arduous job of cleaning the kiln it usually brings a part of the lining with it.

Physical Losses

Where silica is the main impurity added to the lime in process it can be allowed to build up to quite a high percentage. Six per cent of silica is not particularly detrimental providing the sludges are properly washed.

It is recognized that in kraft mill practice a portion of the sludge must be continuously discarded to keep the lime within reasonable limits of purity, the quantity depending on the efficiency of the green liquor setting operation. This operation also directly affects the filtration of the sludge and washing of the cake on the filters. There is therefore a direct relation between the allowable total impurities in the lime and the quantity of sludge discarded. If the impurities can be so controlled that the major part is silica they can be allowed to be higher than otherwise making it necessary to discard less sludge to maintain the right balance.

We will now consider physical losses of the lime. If the system is controlled properly the only places lime is lost apart from a certain predetermined discard of sludge in kraft practice are dust losses up the stack and an insignificant quantity in solution.

Because of the fear of the lime becoming dirty by too high recovery, stack losses have been regarded as a rather convenient evil and therefore tolerated. There might be some excuse for this, especially in kraft mills were it not for the fact that the lime that dusts off up the stack is the purest.

In soda mills this loss should certainly be stopped because the danger of foul lime from high recovery is

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SOUTHEASTERN ALASKA
A typical stand of Western Hemlock and Sitka Spruce

Foreign Markets Interested

That foreign markets are interested in the potentialities of the growing pulp and paper industry of the Pacific Coast as a coming source of supply is manifested in a number of letters received from commercial attaches and trade commissioners representing the U. S. Department of Commerce abroad. Following are extracts from letters from a few such offices which received the 1930 REVIEW NUMBER of PACIFIC PULP & PAPER INDUSTRY.

From Halleck A. Butts, Commercial Attache at Tokyo, Japan:

"We have read the 1930 REVIEW NUMBER of PACIFIC PULP AND PAPER INDUSTRY with a great deal of interest, particularly the article on Japan's paper industry, and shall be pleased to refer to you any inquiries for pulp and paper that may come to us."

From E. D. Hester, Trade Commissioner at Manila, Philippine Islands:

"This publication appears to be a very complete review of the activities of the paper industry on the Pacific Coast and contains information of great value to people interested in the paper business. It is certainly gratifying to know that our Pacific Coast industries are making such rapid progress in the development of the paper industry. Please bear in mind that this office will always be glad to give you and the paper industry whatever assistance we can in promoting their interests in the Philippine Islands.

"We shall be pleased to bring this publication to the attention of interested parties whenever occasion arises. Please do not hesitate to communicate with us if we can be of service."

Acting Commercial Attache A. Ogden A. Pierrot, in writing from Rio de Janeiro, Brazil, at the same time comments interestingly on the general paper industry in Brazil, as follows:

"Needless to say, we are always pleased to receive literature of this nature, as it proves a valuable source of reference to us and also is helpful in answering inquiries received from local importers interested in making connections with exporters in the United States.

"As you are probably aware, the paper industry in Brazil is highly developed, with the result that this country is becoming of less and less importance as a market for American paper products. At the present time, there are eighteen large paper mills operating in Brazil, representing a capital investment of $200,000,000, or approximately $24,000,000. Production of these various mills is estimated at approximately 70,000 metric tons annually, and includes practically all classes of paper and paper products with the possible exception of newsprint, which cannot, as yet, be manufactured profitably on a large scale. The several Scandinavian countries are at the present time supplying the bulk of the newsprint being consumed in Brazil, and there is still a considerable volume of pulp being imported from the same source, although experiments are, at the present time, being conducted in the State of Parana, which may result in the ultimate establishment of a domestic pulp industry which will eventually supply the bulk of the domestic demand.

"In conclusion, we desire to reiterate our thanks for your kindness in remembering us with a copy of the review, and you may rest assured that this office will welcome an opportunity to be of any assistance to pulp and paper manufacturers on the Pacific Northwestern coast of the United States, interested in this market."

Australia Investigates Paper Manufacture

Australia, not blessed with vast forests of its own, and finding paper an expensive item on its import list, last year opened investigation into the possibility of establishing domestic manufactures. A committee appointed by the Minister of Agriculture recently completed its reports, the high points of which follow:

Granting forest supremacy in soft woods in other regions of the world the committee turned its attention to straw, finding 3,000,000 acres annually sown to wheat. The committee is satisfied that there is an ample market for the product of a number of paper mills in Australia, the annual imports of the grades of paper contemplated for domestic manufacture amounting to some $75,000,000. Consideration was given also, in the report, to possibilities of an export market.

Touching upon the depletion of softwood forests in Canada, the United States and Northern Europe, the committee held that "the outlook for the manufacture of paper from straw is very encouraging."

Celebrate New Westminster Reopening

More than 500 prominent citizens of New Westminster, Vancouver, Bellingham and adjacent cities attended the formal opening of the new $800,000 plant of the Westminster Paper Company at New Westminster, B. C., on May 29.

President J. J. Herb welcomed the guests, who represented civic bodies and service clubs principally. The opening ceremony was featured by a luncheon at which F. J. Hume of New Westminster presided.

Mr. Hume paid a warm compliment to the courage and energy of Mr. Herb and H. M. Lord, secretary-treasurer, who had arrived in the city only eight years ago with plans for a mill. He recalled that less than a year ago, when fire swept the plant, most of the stock was held in the United States, but the record of Mr. Herb and his associates had so favorably impressed the community that 97 per cent of the capital was now held in Western Canada, much of it in New Westminster and Vancouver. The company now has a payroll of $150,000.

The enterprise of the company was also commended by Hon. R. L. Maitland, minister without portfolio in the Tolmie government. At the request of the company employees, Mr. Maitland presented Mr. Herb with a handsome desk lamp.

Among the other speakers were: R. D. Williams, president of the New Westminster Board of Trade; W. G. Murrin, president of the B. C. Electric Railway and B. C. Power Corporation; W. J. Blake Wilson, vice president of P. Burns & Co. and a director of the Canadian Pacific Railway and Bank of Montreal; Col. T. A. Hiam, assistant to the president of the Canadian National Raildals; R. Baird, supervisor for Western Canada of the Royal Bank.

Westminster Paper Company was organized in 1922 with a capital of $250,00, and in 1926 it was reorganized with a capital of $635,000.

Seeks To Promote Wood Flour Use

The industrial department of the Vancouver Board of Trade is endeavoring to interest capital in the wood flour industry in British Columbia. Pulverized wood flour is used extensively in the linoleum industry and it is also required in the explosives industry and in the manufacture of Bakelite, which is used commercially in the form of radio dials, billiard balls, coral beads, fountain pens, pipe stems and similar articles.

The United States, according to R. H. Arnott, secretary of the industrial department, consumes 25,000 to 35,000 tons if wood flour annually, about half of which is imported from Europe.

The product is made from grinding chips, sawdust and other mill waste primarily in a chipper or hog machine. Stone mills complete the pulverizing process.

Mr. Arnott says that one mill alone on the Fraser River can supply sufficient raw materials to keep a wood flour mill working at full capacity with a production of 500,000 tons annually.

PAPER

and

AGRICULTURE

Its growing use in the

Marketing of fresh produce

Paper finds a use in export shipments of lettuce where a single surfaced corrugated board is used to separate each head.

Editor's Note—Paper is finding an ever-widening use in the growing and marketing of agricultural crops. The subject being a large one, it has been found convenient to divide it into several parts. The present article deals with the marketing of fresh produce. The first of this series, discussing the uses of paper in growing crops, was published in the April issue. Subsequent articles will deal with the uses of paper in marketing refrigerated and preserved crops.

IN bygone days, the Oriental who peddled fresh fruits and vegetables from door to door was ever a welcome harbinger of spring as he made his first neighborhood calls of the season. And throughout the summer the creak of his rickety wagon, invariably piloted by an extremely sleepy looking horse, was a famiilar sight.

A picturesque institution withal, this homely vendor of his own truck garden produce was a boon to the housewife in the days when really appetizing vegetables could only be bought direct from the producer at certain seasons of the year. But since foodstuffs, and particularly fresh fruits and vegetables, have passed into the hands of "big business" and are being marketed through associations and cooperative organizations, the "one horse" institution is no longer concerned with the selling end of his business.

The housewife now finds it much more convenient to buy from her regular grocery store or market. Moreover, improved shipping facilities, contingent on large scale marketing, mean fresh fuits and vegetables all the year around, where formerly they could be had only during a few months of the year.

That this phase of modern industrial development should have any bearing on the paper industry may not be at once apparent. But a brief inspection of a commission house or fruit packing plant will reveal an enormous tonnage of paper being used here. Paper is, in reality, a vital factor in that titan industry of the West—agriculture.

That the package sells the product even tho the product is an orange or a bunch of celery, is by now almost a platitude of marketing. Because a demand for certain brands has been created upon this fundamental idea, supplemented by national advertising, the larger fruits such as oranges, lemons, grapefruit, and apples come to market in their gayly colored and decorative individual tissue wrappers, each wrapper bearing a trademark. For fruit wraps alone, a handsome annual paper tonnage is required.

Fancier packs are often made as delectable looking as some of the boxes at the candy counter with the aid of paper in the guise of lace paper edgings, decorative crate linings, and glassine.

The eye appeal of these decorative touches is a selling point as well as a trade mark or advertisement. And of course every box must have its paper label!

The practical origin of this use of paper, however, must not be overlooked altogether—namely, a matter of protection. Apples and pears, for instance, are wrapped in a paper which protects them from the inroad of insect pests—generally sulphite wrapping paper which has been given a special oil treatment.

Untreated wraps of lighter weight sulphite paper, are adequate for packing tomatoes, peaches, apricots, and citrus fruits. In the East, growers are lining the bottom of their fruit boxes with single surfaced corrugated board—a practice which is not very extensive on the Coast but is growing steadily.

The lowly vegetable likewise presents a better appearance in a crisp paper wrapper bearing its trademark. The bulk of fresh asparagus is now shipped in individual bunches containing twelve stalks, each bunch packed in its container of vegetable parchment which is preferred for its moisture proof qualities. If the asparagus is packed loose in the crate, linings on the bottom of the crate of celotex glued to waxed paper are found more satisfactory than moss, which formerly was used for the purpose of holding the moisture.

This same method of wrapping celery in bunches is

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The Chlorination Process

for Refining Pulp Mill Screenings and Raw Cooked Fibres

By CHARLES A. NEWHALL
Consulting Chemist, Seattle, Washington

Editor's Note: This is one of the papers from the program of the first Spring meeting of the Pacific Section of TAPPI, held at Longview, Washington, April 5, 1930.

PULP mill screenings consist of a mixture of cellulose fibers that are "stuck" together more or less firmly by residual lignin, woody slivers and shives, knot material, charcoal and dirt such as sand and mill scale. The average sulphite or kraft process screenings will show in excess of 95% cellulose fiber. This fiber is long and strong and more or less coated with lignin encrusting matter, for which reasons the fibers become entangled together and thus fail to pass thru the screens. The encrustant matter makes the fibers stiff.

The Chlorination process is admirably adapted to the removal of the encrusting matters from the fibers. Once this encrusting matter is removed the cellulose fibers become soft and pliable and are easily separated from each other and thus can be made to pass through the usual screening system. The non-cellulose matter is dropped out in riffles or is trapped on the screens, while the chlorinated encrustants are soluble and go out in the wash water.

A modification of the Pomilio Chlorination Process of delignification has been developed for the purification of pulp mill screenings and raw cooked fibers. In this process the screenings or raw fibers are subjected to the action of chlorine whereby the lignin encrustants become chlorinated. The chlorinated material is easily soluble in water and a thoro washing removes all the encrusting matter, leaving a yellowish colored fiber.

Treatment

This fiber is treated with a small amount of chlorine in the form of calcium or sodium hypochlorite together with a slight excess of calcium or sodium hydroxide. The fiber is then run over washers and screens, the resulting pulp being similar in every respect to a high grade bleached sulphite cellulose.* The resulting cellulose is similar in properties whether the screenings come from a sulphite, sulphate or soda pulping process or from ground wood operations.

The different classes of screenings and screenings from different kinds of cooks of the identical process vary in the quantity of chlorine required in the first step—the chlorination step. The more lignin material present the more chlorine required for complete chlorination and lignin removal. "Red"-screenings or ground wood or raw cooked fiber may require as much as one third of their weight in chlorine and several alternate chlorinations and washings to bring about the complete removal of lignin matter. The average sulphite or sulphate process screening is easily delignified with 3% chlorine and a single chlorination and washing. The final or bleach step is carried out in all cases with from 1½ to 3% chlorine.

The process may be carried out in numerous ways. Commonly we first wash the screenings and bring to a consistency of about 1%. The slush is then run into an agitator tank—the tank and agitator being made of paraffine impregnated wood. Chlorination may be accomplished in several ways, the choice depending on the class of pulp it is desired to produce.

The most simple procedure is to add to the slush 3% of its dry fiber weight of chalk or finely pulverized limestone and then inject chlorine gas equivalent to 3% of the dry fiber weight or such quantity of carbonate of lime and chlorine as previous laboratory tests show to be required by the class of screenings being treated. Where a slight residue of chalk in the finished fiber would be objectionable the chlorine and limestone are brought together in an outside saturator and the so-called "hypochlorous acid" solution made and the proper quantity of this form of chlorine added to the slush in the agitator.

Low Temperature

Whichever is used in the first step—chlorine gas, chlorine water or "hypochlorous acid"—the result is the same insofar as the chlorination of the lignin matter is concerned, this chlorination taking place in less than 15 minutes. In this step it is essential that the temperature of the slush be kept as low as possible all the time—lower than 20° C. is essential and the best results take place at near 0° C.—that is, the lower the temperature at which the chlorination takes place the less degredation of the cellulose to oxycellulose and like substances. The fully chlorinated slush takes on a deep brown color. The coloring matter, that is the cholorinated lignin, is soluble in water and is washed out on centrifugals or on washers and the pulp rewashed with clean water—warm water is desirable as the chlorinated matter is much more soluble in warm than in cold water.

Second Step

The washed pulp is again reduced to about 1% consistency and then treated with calcium or sodium hypochlorite containing an excess of base of about 2%. The amount of chlorine required must be determined by laboratory test on samples of the materials under treatment—usually less than 3% of chlorine is required.

This second or bleach step requires usually two hours and the temperature may be allowed to rise to about 30° C. without damage to the strength of the fiber. When the pulp has assumed the right color the slush is run to the centrifugal or the washer and the bleach residual

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*Note: Where a high white color together with a high percentage of alpha cellulose is desired it is essential that the raw fibers be free from "ink". The cause and prevention of this "ink" formation in cellulose fiber is discussed in another paper.

Pacific Coast Log Prices

The current cry is that logs are now selling for more than finshed lumber, even tho lumber is woefully weak. There is no denying that lumber is in the dumps at the present time and the retrogression in production is making itself felt backward along the line to the stump, as each individual hopes to stay in production and keep his men and equipment active.

The closing down of a number of large sawmills, some of which have cut and piled huge inventories before closing, is having its effects on the available supply of hogged fuel and wood chips and making those pulp mills dependent upon sawmill waste look around a bit to other sources as a matter of self-protection.

Some operators with contracts to supply hogged fuel are storing fuel while available against possible shortage. Some mills using sawmill waste for chips are encouraging the small contractors to cut cordwood.

Another operator whose mill was founded entirely upon sawmill waste is now reported to be using 70% logs for his pulp requirements. By purchising the long, thin logs which have only the poorest market with the sawmills, this operator is reported to be getting from 2 to 2½ cords from each thousand feet of logs, log measure.

At prices ranging from $7 to $9 per M for this grade of logs, the cost of wood at this mill figures out at from $3 per cord up, at the pulp mill. Compared with sawmill waste there is a further advantage, for it is an easy matter to break down and clean up the log for pulp as compared to the high labor costs in converting sawmill waste slabs to pulp chips.

On June 1 the following prices were quoted on western Hemlock in the several log markets:

Seattle—$10-$11, $12-$13. Supply plentiful, outlook questionable. Camps operation 75%.

Portland and Columbia River—$9,$9.50—$10, $10.50. Supply ample and gaining on mills. Demand weak and outlook poor.

Willapa Harbor—$8-$10. Supply plentiful. Camps and mills operating from 60% to 70%.

Grays Harbor—$8-$9. Future uncertain.

Tacoma—$11-$12. Operations at 90%. Outlook doubtful.

Bellingham—$10. Price outlook poor.

The prices quoted can not be taken as final criterion because of the tendency in any industry to make concessions in a falling market. On log prices, for example, in seasons of firm prices the sawmills may have to stand the towing costs, whereas in a slump with the logger anxious to move his logs, towing costs may be absorbed or the rafts may be sweetened, or concessions of one kind or another will be offered which tend to lower the net cost of the log.

Japanese Depression Continues

In Japan it is learned in recent advices the Fuji Paper Company, one of the larger operators, has suspended operations at its chemical pulp plant at Ikeda and its mechanical pulp plant at Kanayama, Hokkaido, due to the general depression in trade.

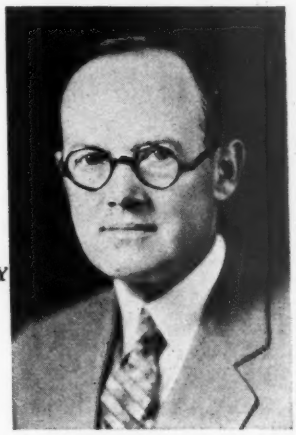
Japanese paper mills are presently operating at about 65% capacity, but the situation is not expected to get worse.

The contemplated merger of three leading Japanese producers, Oji, Fuji and Kabafuto Kogyo, has been dropped definitely and a joint sales plan is to be substituted.

Grays Harbor Holds Annual Meeting

E. M. Mills was reelected to the presidency of the Grays Harbor Pulp & Paper Company at the company's annual meeting held last month. Other officers named were J. D. Zellerbach and I. Zellerbach, vice presidents; W. L. Raymond, secretary; S. Sonnenberg, treasurer and assistant secretary; Charles H. Conrad, assistant secretary; A. I. Ellis, assistant secretary and assistant treaurer.

The board of directors includes Messrs. Mills, J. D. Zellerbach, I. Zellerbach, Raymond and the following additional: George Leib of Blyth & Company, financiers; H. L. Zellerbach of the Zellerbach Paper Company; W. S. Lucey, resident manager of the Grays Harbor mill at Hoquiam, Washington; Norman W. Wilson, first vice president and general manager of the Hammermill Paper Company of Erie, Pennsylvania; W. T. Brust, vice president and assistant treasurer of Hammermill; and W. F. Bromley, vice president and secretary of Hammermill.



E. M. MILLS
Re-elected
President
GRAYS HARBOR
PULP & PAPER COMPANY

Mr. Leib replaces Charles Blyth on the board at the latter's voluntary request. Mr. Blyth has been spending most of his time in New York recently.

The Grays Harbor Pulp & Paper Compan has developed thru the original founding in late 1927 of the Grays Harbor Pulp Company by a group headed by Mr. Mills. The company completed a 175-ton bleached sulphite pulp mill in October 1928, but before that time had effected a reorganization into which the Hammermill Paper interests were brought, to effect the present company, and thru which connection a new 50-ton paper machine came to be installed at the Hoquiam plant for the production of high grade sulphite bond papers.

Transferred to Camas

D. F. Gallagher has been transferred to the Camas, Washington, mill of Crown Zellerbach Corporation to take charge of the office. He has been in charge of the office at the National Paper Products Company mill at Port Townsend since the opening of that plant. Mr. Gallagher is succeeded at Port Townsend by H. E. Burden, who came from Ocean Falls, B. C. some months ago.

Bates Bag Official Visits Coast

C. H. Hartman, vice president of the Bates Valve Bag Corporation, accompanied by Mrs. Hartman, returned to the East on May 15 after a visit to Pacific Coast territory.

T-R-A-D-E - T-A-L-K

Devoted to the Paper Trade of the Western States

AT THE DEL MONTE CONVENTION

Proving that mill men and jobbers can get together. Top row —left to right—T. A. O'Keefe, J. L. Murray, Geo. I. Tompkins and Carl Fricke. Bottom row—Dana Pratt, A. H. Cochran and Wm. Taverner.

Come On Over, But Bring a Hammer

Ben Levison, San Francisco, paper mill representative, who handles the accounts of a number of manufacturers in the Miami Valley of Ohio, reports that a recent visitor was Carlton W. Smith, president of the American Envelope Co., West Carrolton, Ohio. Mr. Smith spent a week in San Francisco and then journeyed north to Seattle. He predicted that the end of 1930 would show a considerable business improvement over the beginning of the year.

Mr. Levison reports that the Fox Paper Co., of Lockland, Ohio, another of the mills he represents, is doing well on its blotting paper lines on the coast. He expects Alfred Srere, president of another principal, the Miami Valley Coated Paper Co., to visit the west soon.

To take care of all these visitors, Mr. Levison is building himself a villa high on a cliff overlooking the Pacific Ocean just north of the Golden Gate. It is at Muir Beach not far from Tomales Bay, reputed rum-runners' rendezvous. Ben is inviting all his friends to come over Sunday and help nail on shingles.

Blake Opens Walla Walla Branch

Better to enable it to give prompt service to the famed grain country of the Inland Empire, Blake, Moffitt & Towne have added to their extensive chain of jobbing houses which extends the full length of the Pacific Coast by opening a new branch at Walla Walla, Washington. J. G. Brittain is in charge. For the time being coarse papers will be stocked at Walla Walla and fine paper orders will be filled from the Portland branch. They say Walla Walla is a nice little city, so nice in fact, that they named it twice.

B. M. & T. In New Building

Blake Moffitt & Towne have moved into their new building in Oakland, at Sixth and Webster streets. The plant is thoroughly up to the minute in equipment and is fully stocked. F. L. Unthank is manager.

Blake Moffitt & Towne have added three new lines to their stock recently. They are: Polychrome Dull Coated Book, manufactured by the Appleton Coated Paper Company, Appleton, Wisconsin; Mural Cover, made by the Marvellum Company, Holyoke, Massachusetts; and Crane's Dynamode, manufactured by the Crane Company.

Zellerbach Moves Long Beach Division

Manager C. H. Johnson is now established with stock and personnel in the new headquarters of the Long Beach, California, division of the Zellerbach Paper Company at 1165 West Ocean Boulevard. The move was made last month from 905 Pico Street. It gives the branch more floor space.

Hollywood Gets a Break!

Lincoln Older of the Brown Company's Pacific Coast staff is in charge of the firm's new Los Angeles office, which has been opened in the Transporation Building there to service Southern California customers. "Link" has moved to the southland and has been accused by his San Francisco friends of "going Hollywood", as he has taken up his abode in Westwood Village.

ANDREW CHRIST, Jr.
won the
GOLF CHAMPIONSHIP
at the
DEL MONTE CONVENTION

Rollie Ayres Bosses Speaking Contests

It's getting to be quite a habit. When the Pacific Advertising Clubs Association meets in Spokane June 22 to 26 Rollin C. Ayres will be present and for the ninth consecutive year will have charge of the three minute speaking contests which are alwavs a feature of these meetings. When "Rollie" isn't at doings of the advertising club he can be found engrossed in directing the advertising affairs of the Zellerbach Paper Company.

Just a Few

* * THUMBNAIL INTERVIEWS * *

With Eastern Visitors

at DEL MONTE last month.

Harrison R. Baldwin, Sales Manager, Hammermill Paper Co., Erie, Pa. . . .

Paper merchandising conditions in the West are similar to those in the East, and the world over. Merchandising consists of having a good product, of making the public want it and of rendering good service. There is a great opportunity in the West for manufacturers to cooperate with each other and with the merchants; there will be found profit for all. I feel that the Kelly "resale bill" now proposed is an excellent move but the industry should not wait for the Kelly bill to solve its problems. The people in the paper business should get together, should work aggressively for the good of all and should cooperate.

We in the Hammermill company feel we are both West and East, we have one arm extended to the Pacific and the other to the shores of Lake Erie and we know there is a very close relationship between the industry East and the industry West.

Frank E. Floyd, New York, Secretary, National Paper Trades Association. . . .

Conditions to me appear about the same East and West and while it may be dull here during the summer, I feel that the year will show good results. The slump in business comes West gradually and it is in the Middle West now; maybe it will not come any farther. During the slack months, however, the industry is taking stock of itself, is making careful investigation of its own resources and expenditures and is moving more carefully than in the past. Possibly I speak from the experience of a veteran paper man, for I was for 37 years with the Crescent Paper Company of Indianapolis and became secretary in 1928.

George Olmsted, S. D. Warren Paper Co., Chicago, former president of the National Paper Trade Association. . . .

This wonderful western empire is some day going to be the hub of the paper manufacturing industry of the United States. "Westward the course of empire takes its way," said Bishop Berkeley many, many years ago, and so westward is moving the paper manufacturing industry. You here on the western slopes are going to make pulp better and probably cheaper than we can do in the East and your shipments by water East are going to show steady increases. Except in Maine and possibly one or two of the Middle West states, we have no great stands of timber, no great pulp resources such as you have in the Pacific Northwest and Alaska. There is a definite trend in industry and that trend is westward.

Thirty years ago I can remember when Canada was only making 300 tons a day of pulp and the mills in the United States were turning out between five and six thousand tons. Now the United States produces around 4,500 tons a day and Canada around 7,500 tons. The day is coming when your Northwest will step into the lead and top the rest of the United States, just as Canada moved ahead.

I want to impress upon the industry here in the West that it must organize to do things in the right way. You folks out here can lead the national paper industry out of the wilderness; you are young, your association is young and you should grow soundly and not plant seeds of dissent and discord as you go along.

Guy Hamilton Beckett, Beckett Paper Co., Hamilton, O. . . .

This is my first trip to the western convention. The one word that really describes my impression of this country is "marvelous." I'm coming back every year.

Sidney L. Willson, President, American Writing Paper Co. . . .

We have nothing to fear, I think, about business in this country. There has been and is at present a little depression in business but it is only because there has been injected into business conditions of today the element of fear, and fear always comes from the fact that we have too few facts about conditions. I attended the convention in Washington last November, right after the stock fluctuations, when everybody thought business was going to smash and I feel no fear for the future. It is like throwing a man head forward on the ground—this stuns him and takes a little time to recover. That is the period we are going through now. I look for a decided improvement in business before the end of the year.

Three New Vice Presidents

Louis A. Colton, purchasing director of the Zellerbach Paper Company, San Francisco, E. A. Breyman, general operating manager and Mason Olmsted, assistant to the director of sales, have been made vice presidents of the company.

LOUIS A. COLTON
Elected
VICE-PRESIDENT
Zellerbach Paper Company

Victor Hecht, manager of the Los Angeles division of the company, has been appointed to the board of directors.

President Harold Zelelrbach is making an extensive trip through the Northwest.

A general manager's convention of the Zellerbach Paper Company was held at the headquarters of the company in San Francisco May 19-22. This was held in conjunction with the standardization meeting. About 30 were in attendance.

George Hauck, sales manager of the Graham Paper Company, St. Louis, was in San Francisco recently.

* * *

Guy Beckett, Beckett Paper Company, Hamilton, Ohio, called on his San Francisco friends last month.

* * *

W. J. Pilz, assistant manager of the Everett Pulp & Paper Co., Everett, Washington, was a recent San Francisco visitor.

* * *

Willard Swift, president of the United States Envelope Company, Springfield, Massachusetts, was in San Francisco last month.

* * *

C. H. Cashmore, treasurer of the Paterson Paper Parchment Company, Passaic, N. J., paid a recent visit to the San Francisco trade.

* * *

Joseph Pirie, Fox River Paper Company, Appleton, Wisconsin, was a visitor in San Francisco recently.

* * *

J. F. Wuenschel, Gray's Harbor Pulp & Paper Company, Hoquiam, Washington, visited the trade in San Francisco last month.

* * *

Henry Burgee, treasurer of the Parsons Paper Company, Holyoke, Massachusetts, visited the trade on the Pacific Coast recently.

* * *

Harrison Baldwin, sales manager, Hammermill Paper Company, Erie, Pennsylvania, paid a visit to the San Francisco paper trade last month.

The DRAMATIC DEMONSTRATION

Is Usually Convincing Until We Consider The Conditions

From the simple product of the vendor, to the scientific ventilating system for a mill—this fact holds equally true. Results secured from a ventilating system under one set of unusually favorable circumstances are likely impossible of attainment in hundreds of other mills where less favorable conditions necessarily prevail. Performance figures by themselves mean little without considering such factors as mill construction, wet end conditions, size of machine, continuity of operation, etc. No single dramatic demonstration can hope to create a new vogue in ventilating.

◆ ◆ ◆ ◆ ◆ ◆

The successful record of ROSS SYSTEMS for mill ventilating extends over a decade, tried and tested in all types of mills under almost every combination of operating conditions. You can compare Ross System results in mills similar to your own. No other method affords such comparison.

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ROSS SYSTEMS
HEATING—VENTILATING—DRYING

The Chlorination Process

(Continued from page 44)

removed and a thoro washing given. The bleached pulp is then run to riffles and finally to screens.

The average sulphite screening shows a recovery of 95% of high grade fiber with loss and dirt representing the balance. (This figure based on laboratory scale runs).

In the first, or chlorination, step of the process it appears to be advisable to have the reaction of the slush liquors slightly on the acid side—as acid is developed by the HCO_3 radical, this being present in the form of calcium bi-carbonate. If an excess chalk is not present the acidity rises to that produced by HCL at which degree of acidity the cellulose fiber appears to be rapidly degraded to "oxycellulose" or like substance.

In the second, or bleach, step the purpose is to have the reaction strongly alkaline as the fibre is apparently less damaged when the bleach or oxidization of the coloring substances takes place in an alkaline medium altho under this condition the reaction requires a longer time than is the case where a nearly neutral bleach liquor or an acid liquor is used. We have found the presence of a salt like trisodium phosphate beneficial in this last stage, especially where it is desired to produce a strong fiber high in alpha cellulose. Also where a "soft" fiber is desired it is better to use the sodium hypochlorite rather than to use the calcium hypochlorite.

Quantities: For average sulphite screenings.

Chlorine: Total 6% basis dry fiber weight. Half as "HClO" and half as NaClO.

Calcium Carbonate: 3% basis dry fiber weight.

NaOH: 3½% basis dry fiber weight.

Water and Slush water: 30,000 gallons per ton dry fiber weight.

Time: Chlorination step 15 minutes; bleach step two hours; basis each batch. Estimated that two 40-inch centrifugal washers will handle five tons fiber—dry basis—in eight hours.

Note: Basic features of this process covered by the Pomilio patents. Modifications covering use for screenings and raw cooked fiber under patent application.

The Recovery of Lime Sludge

(Continued from page 40)

negligible. In kraft mills if this material were saved it would improve the average quality of the lime in the system rather than lower it. It is true that dusting does not take place in kraft practice to the extent it does in soda but that is because the sludges are so dirty and sticky. As methods are developed to keep kraft sludges pure the dusting problem will be aggravated. Dust can be kept down by longer kilns and wetter sludges but that means an increased fuel cost.

A scrubber has recently been developed by the writer. which he has found successful. This scrubber continuously removes all dust from lime kiln stacks and returns the material to the kiln as sludge. The apparatus requires almost no attention and also automatically keeps the combustion chamber clean. It operates on about five horse-power and maintenance charges amount to but a few dollars a year.

In soda mills stack losses amount to about 15% of the material put thru the kiln while in kraft mills they are a little lower. Apart from the loss of material it is highly desirable to scrub the gasses from rotary kilns because of the nuisance caused by the lime dust. This dust removes the paint from iron work and anyone who has left an automobile in the vicinity of a rotary kiln knows the havoc that is played when a sprinkling of lime dust settles on the finish on a damp day.

The writer has not discussed the actual burning of the lime. That is an age old art and presents few difficulties if the lime going to the kiln is clean. It is interesting to note that lime-burning was described by men as ancient as Dioscorides and Pliny.

Higher lime recovery will certainly mean a little cheaper pulp and by these economies come ultimate profits.

Suits Filed In Northwestern Case

The Northwestern Pulp & Paper Company of Astoria, Oregon, defunct, and its directors, A. V. Allen, B. T. McBain, W. M. MacPhail, Robert T. Jacobs, Amedee M. Smith, Charles W. Miller, H. O. Schundler, Herman Kolberg, G. Clyde Fulton and Frank Patton, were named defendants in a suit filed at Oregon City by C. Schuebel, attorney, to recover $500 paid for stock in the concern.

The outcome of this action, which is a test case, is awaited by many other stockholders and if the case is decided in favor of the plaintiff, it was said, similar cases would be filed by Arthur B. Beattie and Earle C. Latourette, Oregon City attorneys who have claims aggregating about $100,000.

The Northwestern company proposed to build a sulphite pulp mill of about 100 tons capacity on a site near Astoria. Some excavating was undertaken after the project had dragged along a couple years, but no further work was done.

In the suits now filed it is charged that the promoters collected $250,000, of which in stock sales only $39 remains as assets.

Claim Pulp Mill Pollution Damage

Seven property owners in the Oakland Bay district of lower Puget Sound have filed in federal court a claim for damages exceeding $700,000 against the Rainier Pulp & Paper Company, which operates a 175-ton bleached sulphite pulp mill at Shelton, Washington. The plaintiffs claim that the liquors discharged by the pulp mill have damaged their oyster lands.

In answer to the charges the pulp mill maintained that it built the Shelton mill only after it had investigated the situation and had met every request made by state authorities for disposal of the mill wastes.

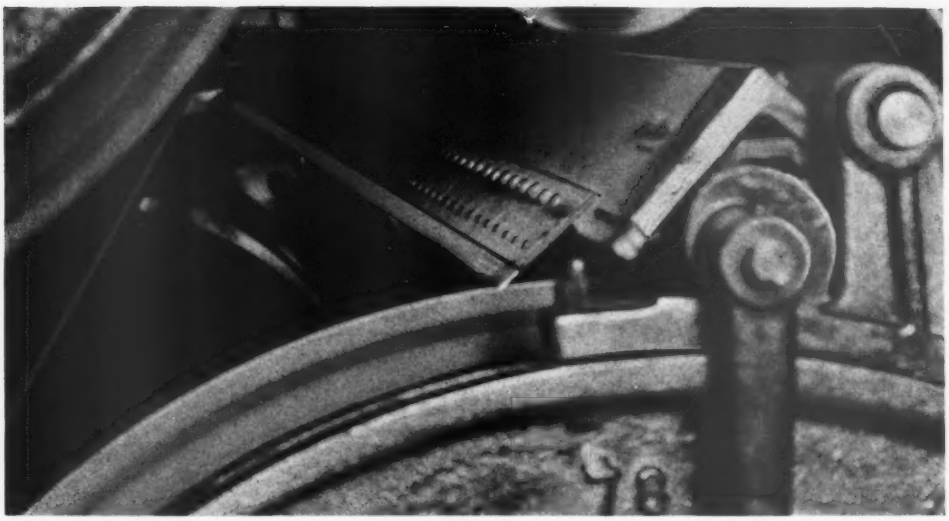
The Shelton pollution problem has continued to crop up more or less periodically ever since the mill was completed in June, 1927. The mill is piping its liquor several miles to deeper water and utilizes collecting basins to hold the liquors for dumping on high tides.

Pollution studies have been conducted since the mill's inception by both the mill and state authorities, but from the disinterested viewpoint it seems that there is no agreement on what actual damage, if any, is being perpetrated upon the marine life of the vicinity.

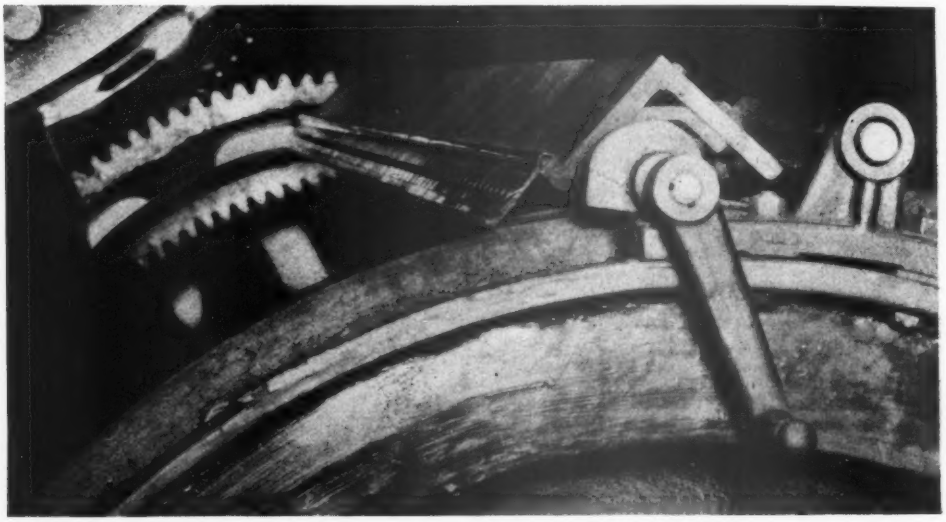
Would Abate Cinder Nuisance

The Oregon Pulp & Paper Company, operating a 100-ton sulphite specialty paper mill at Salem, Oregon, has been named defendant in a suit for permanent injunction filed by a Salem attorney, representing a number of interests, to restrain the paper mill company from turning loose soot and cinders upon the community.

The paper company recently announced that it would install another boiler and otherwise attempt to reduce the cinder nuisance.



VICKERY DOCTORS GUARD THE EFFICIENCY OF THESE DRYERS



The polished surfaces of these dryers are in perfect condition to transfer heat rapidly and uniformly, and to assure high quality af paper finish. Like thousands of other dryers, they are kept that way twenty-four hours a day by Vickery Doctors — the Doctors that do a 100% job without adjustment.

Try a Vickery Dryer Doctor, at our expense.

BIRD MACHINE COMPANY

SOUTH WALPOLE ◆ MASSACHUSETTS

4012

When writing BIRD MACHINE CO., *please mention* PACIFIC PULP AND PAPER INDUSTRY

Paper in Agriculture

(Continued from page 43)

now employed by growers in the East and is being accepted by Western growers. Vegetable parchment has proven to be a most practical sheet for packing nearly all vegetables which must be shipped in ice because it is very strong, tough, and insoluble. Waxed kraft paper is all that is necessary for the more succulent vegetables.

In connection with the paper used in packing for shipping purposes, the appearance and trademark are equally as important as in produce packed for the retail trade, because the retailer is just as much a customer in the commission house as the housewife is in the grocery store or market.

The time element involved in shipping perishable fruits and vegetables demands even greater ingenuity in wrapping. For instance, every head of lettuce, cauliflower, or celery which is going any distance is individually wrapped in waxed paper and layers of corrugated manila board separate them in the crate which has been lined with this same corrugated board. It has been estimated that about 1,000 tons of these liners are used on the Pacific Coast each year.

A novelty idea which is being exploited with some degree of success by potato growers in Idaho is that of marketing large selected baking potatoes singly in paper cartons. For some time this same commonplace but seemingly indispensible vegetable has been sold in paper sacks containing standard quantities.

A "fruitful" field for developing new uses for paper products should be the berry industry, and here everything is yet to be done. Some strawberry growers have in the past year or two adopted berry baskets of pulpboard, and it is highly probable that before long a basket of this size will be quite widely used in popular sizes containing conveniently small quantities.

The field for expansion, however, has barely been scratched. Modern methods of marketing are assuming new aspects every day in the face of increasingly sharp competition and higher standards of living. What will the growing interdependence of these two great industries of the West—paper and agriculture—evolve in the years to come?

Armbruster New Superintendent at Everett

From the Atlantic Coast to the Pacific Coast, that is the jump made by G. J. Armbruster, who, it was announced last month by President Ossian Anderson, has assumed the position of general superintendent of the new 175-ton bleached sulphite pulp mill of the Puget Sound Pulp & Timber Company, now about to begin production at Everett, Washington.

Mr. Armbruster came directly from Athol, New Brunswick, where he was in charge of the Restigouche mill, one of the Fraser company properties. Mr. Armbruster was formerly in charge of Fraser's mill at Edmunston, New Brunswick. Born in New York, he went to Canada some 13 years ago. He has been in the pulp and paper industry all of his life.

Pulp Shipments

Among the loadings from the Fidalgo Division of the Puget Sound Pulp & Timber Company at Anacortes, Washington, last month were a lot of 500 tons of unbleached sulphite for Atlantic Coast ports, and a lot of 600 tons for France.

At Tacoma one intercoastal freighter lifted 520 tons of sulphite for Boston, and a Luckenbach vessel lifted 1500 tons of kraft pulp for the East coast.

Contest On Interior B. C. Power

The Selkirk Power Co., controlled by Washington and Oregon interests, is still an active bidder for the Pend Oreille power concessions in British Columbia, according to Neil H. McDiarmid, of Vancouver, who has been legal representative of the company in its applications for power rights before the provincial water board.

According to Mr. McDiarmid, the company will build a large pulp and paper mill if it succeeds in acquiring the water rights. Meanwhile the struggle for this concession appears to be chiefly between West Kootenay Power Co. and Reeves-McDonald Mining Co. If the former company wins it will be in a position to sell power to independents, such as the Selkirk Power Co., according to Lorne A. Campbell, general manager of West Kootenay.

A Reference Volume on Swedish Timber Industries

For those who would know in more detail about the Swedish timber and wood pulp industries the recently published 1930 Annual Number of "The Swedish Timber and Wood Pulp Journal" is recommended. One of the feature articles is a full discussion of the Swedish giant, the Swedish Pulp Co.—The Kreuger-Toll combine—and its numerous mills. This 216-page number contains full statistics and market reviews for the year 1929. The text is in both Swedish and English. The volume may be ordered from the Swedish journal at Kungsgatan 17, Stockholm, at a cost of three Swedish crowns.

Swedish Cellulose Co. Dominates

The importance of the position occupied in the wood pulp and lumber industry of Sweden by the Swedish Cellulose Co., organized last year to consolidate the Kreuger & Toll Company's pulp properties, is indicated in an article just published by the Svensk Traevarutidning, organ of Sweden's wood industries. The company owns close to 1,235,000 acres of productive forest area.

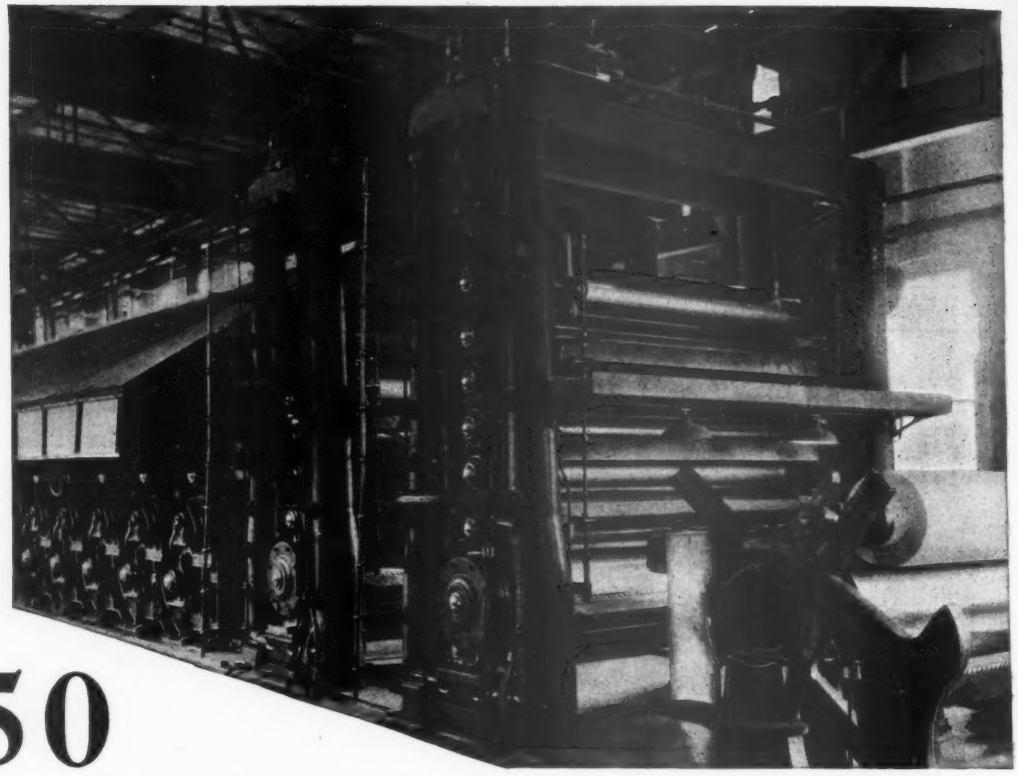
Swedish Cellulose Co. will have a productive capacity for sulphite pulp of 300,000 tons a year; sulphate pulp, 220,000 tons; mechanical pulp, 210,000 tons; newsprint, 29,000 tons. The total sales value of the company's industrial production is estimated at about $39,000,000.

Swedish Cellulose Co. owns 16 sawmills, 11 cellulose mills, 6 pulp grinding mills, 1 paper mill and 12 hydroelectric power plants.

Pacific Mills, Ltd., Vancouver, B. C., has taken action against Union Steamship Company for $7,530 as a result of the loss of 530 bales of kraft paper from the scow Gulf of Georgia No. 38 in Johnston Straits, B. C., last winter. The scow, in tow of the tugboat Chieftain, proceeding south from Ocean Falls, where Pacific Mills' plant is located, was upset following a collision with the Union Steamship Company's steamer Catala. Most of the argument in supreme court is whether the scow was properly lighted. The collision occurred at night.

National Forest Districts Now "Regions"

The nine National Forest districts maintained in the field organization of the U. S. Forest Service are hereafter to be known as "National Forest Regions." The Secretary of Agriculture has approved the change in terminology.



850 Timken Bearings *in this* Beloit Paper Mill

Efficiency in modern paper production is rapidly becoming synonymous with Timken Bearing Equipped paper mills.

The mill illustrated, built and installed last year by the Beloit Iron Works, Beloit, Wisconsin, is one of the most recent examples of Timken's great forward sweep in the paper industry.

There is a total of 850 Timken Bearings in this mill, assuring to the owners the characteristic benefits of the exclusive combination of Timken tapered construction, Timken positively aligned rolls and Timken-made steel at the vital points where they are applied. That means dominant control of all radial, thrust and combined loads; elimination of friction; power and lubrication economies and correspondingly low maintenance costs.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

T-A-P-P-I

Pacific Coast Section

Chairman—R. S. WERTHEIMER
Longview Fibre Co., Longview, Washington

Vice Chairman—RALPH REID
St. Helens Pulp & Paper Co., St. Helens, Oregon

Secretary—H. K. BENSON
University of Washington, Seattle

New TAPPI Members

The following new Pacific Coast additions to the TAPPI membership roster are reported by R. G. Macdonald, National Secretary.

Samuel Geijsbeek, consulting chemical engineer, Geijsbeek Engineering Company, Arctic Building, Seattle, Wash.

Ray Smythe, general manager, Willamette Iron & Steel Works, 685 Industrial Place, Portland, Ore.

One of the latest to join the ranks of Pacific Coast TAPPI members is G. J. Armbruster who arrived on the Coast late in May from New Brunswick to take charge of sulphite production in the new mill of the Puget Sound Pulp & Timber Company at Everett, Washington.

Powell River Progress

The new machine room building of the Powell River Company being built to house the production units to be operated with power from Lois River is rising steadily from what was only a few weeks ago a hole in the ground. The foundation and basement floor slab are finished, and the walls and tanks at the north end are taking form, the pouring of concrete in the wooden molds having been started a few days ago.

At the beater room end the space between the new building and the present one will be spanned by a platform elevator having a capacity of 30 tons, and capable of transferring material from grade level to either floor of each building. The work on this section is being rushed ahead so that the elevator may be available for bringing machinery and equipment into the new structure as soon as the floors are cleared to receive it.

Concrete is being poured this week for the new groundwood mill.

During May the first logs for the crib dam at Lois River were placed. Excavation for the power house is under way and at the time of writing the tunnel has penetrated about 325 feet at the north portal and more than 700 at the south portal.

About 220 men are now being employed at the Lois River-Stillwater end of the project, while 160 men are at the Powell River end, including the company's own field staff.

Although decision will finally rest with the general condition of the market, Powell River Company will be ready at the termination of the present $8,000,000 contract with Stuart Cameron & Company to go ahead with additional expansion in order to make use of the remaining power available at Lois River and its tributary streams. It is estimated that the new program will call for an outlay of about $5,000,000. It would involve construction of a permanent dam on the Lois River, an increase in the size of a section of the pipe-line and the installation of an eighth paper machine, besides several less costly adjustments.

The yearly output of Powell River Company is now about 152,000 tons of news print and with the completion of the new paper unit the mills will have a capacity of about 180,000 tons. It is estimated that with the company's available power fully utilized a capacity production of close to 300,000 tons annually would not be far from the mark.

Oregon Pulp & Paper Plans Addition

In asking for the vacation of a street at Salem, Oregon, the Oregon Pulp & Paper Company reveals plans for the erection of a two-story concrete addition to be used as a finishing room.

The space asked for now forms part of a quadrangle which is surrounded on three sides by the property of the paper mill, the Southern Pacific Railway and the Oregon Electric Lines. The present layout of the plant necessitates some unnecessary handling of finished product and the new addition is intended to minimize this condition. The addition is expected to cost about $60,000.

Market New Paper Towel

Zellerbach Paper Company, San Francisco, is putting out a new Public Service towel. The new towel is made of pure white bleached sulphite and will be manufactured at the Camas, Washington, mill of the Crown Willamette Paper Company.

The towel has the same drying qualities as the old Public Service and has a high crepe finish thus preventing rapid saturation. A patented hem which prevents tearing is another feature. The towels will be dispensed from the regular Public Service cabinets

New type of Public Service towel container now being distributed thru the Zellerbach Paper Co.

which will be distinguished by a two-color modern label. Two other grades of towel will be manufactured, also. One grade will be known as "Damask" and the other as "Certified". These will be cheaper and will not be pure white in color. All grades of the towel will be manufactured at Camas.

A new shipping case will be used to ship the towels. This will carry the same design as the labels on the container and the packages of towels in cerise and blue.

Leon Steenbock, Cromwell Paper Company, Chicago, was a recent San Francisco visitor.

Algonquin Paper Corp.

A. P. W. Paper Co.

Anglo-Newfoundland Development Co., Ltd. ★ ★ ★ ★

Barrett Company

Blake & Higgins Co. ★

Brown Company

Brownville Paper Co.

Burrows Paper Corp. ★ ★

Crocker, Burbank & Co., Association

E. B. Eddy Co., Ltd.

French Paper Co. ★

Fuji Paper Company Japan

Robert Gair Company ★

Great Lakes Paper Co., Ltd. ★

Hammermill Paper Co.

Harrisville Paper Corp.

Kimberly-Clark Corp. ★

Mohawk Valley Paper Company ★ ★ ★

Moyer & Pratt

National Paper Products Company

North End Paper Co.

Pacific Mills, Ltd.

Port Alfred Pulp & Paper Corporation ★ ★ ★

St. Regis Paper Co. ★ ★

Sears, Roebuck & Co. ★ ★

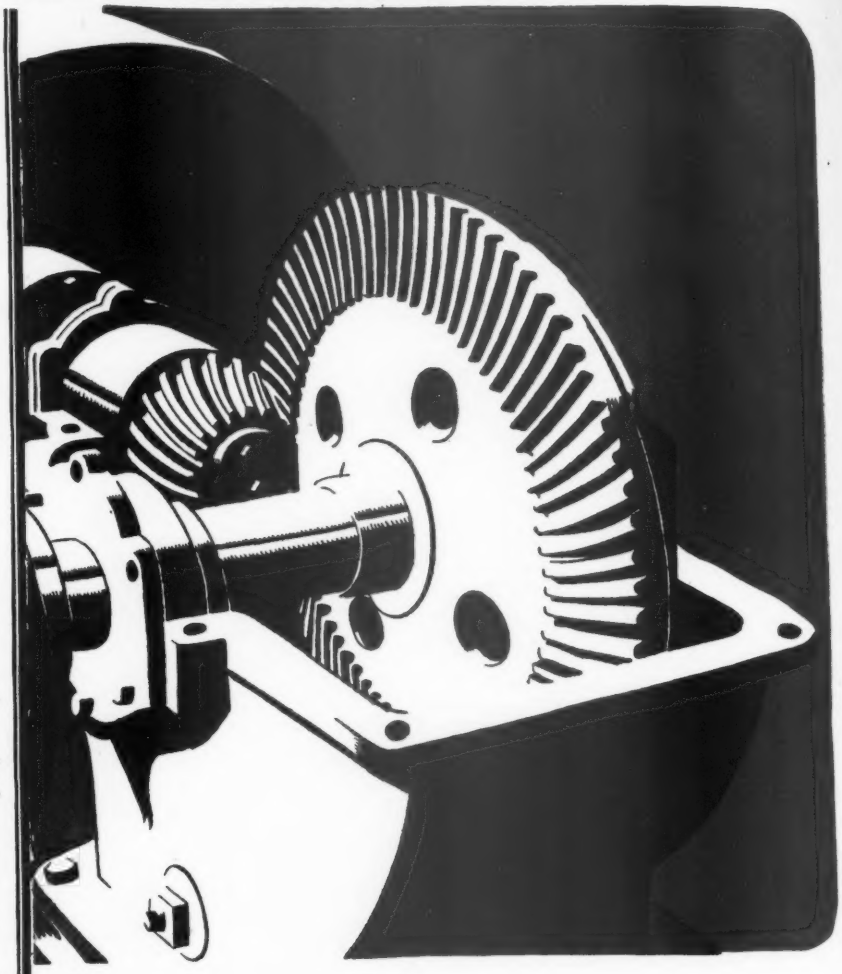
Stevens & Thompson Paper Company ★

Taggart Bros. Co., Inc.

Taggart-Oswego Paper & Bag Corp.

Victoria Paper Mills

Watervliet Paper Co.



Approval and Encores

Conclusive evidence of the practical value of Bagley & Sewall All-Metal Spiral Bevel Gear Drives is their acceptance and approval by the representative mills listed at the left. Each name represents an installation of from one to twenty-nine drives—*each red star indicates a repeat order for from one to ten more.* Bagley & Sewall Drives are helping these mills produce—profitably, speedily, economically. They justify confidence—they'll earn yours, if you'll but give them the chance. We'll gladly tell you all about them.

The Bagley & Sewall Co.

Watertown, N. Y.

When writing BAGLEY & SEWALL CO., *please mention* PACIFIC PULP AND PAPER INDUSTRY.

Set-up
Folding
Corrugated
Solid Fibre

BOARDS and BOXES

A department for interests allied with the pulp and paper industry

Board Mills and Paper Converters

Consolidated Box Holds Special Meeting

Consolidated Paper Box Company of San Francisco and the Bay district issued notice on June 3 of a special meeting of Class "A" and Class "B" stockholders to be held on June 14. The main question to be acted upon was consideration of an offer from Louis E. Raisin and Louis A. Thiebaut to purchase the Consolidated's plant at 346 First Street, San Francisco.

Prior to the Consolidated merger about two years ago which brought together a number of paper box plants, Mr. Raisin was with the Raisin & Zaruba Company, while Mr. Thiebaut was with Thiebaut Brothers, both of which plants came into the Consolidated merger.

This issue goes to press before action at the meeting could be learned.

Changes At Schmidt Litho

K. B. Carney, assistant to Ben D. Dixon, director of advertising, Schmidt Lithograph Company, San Francisco, resigned recently to take another position.

L. C. Barrett, sales manager Galloway division of the Schmidt Lithograph Company, is in the East to attend the American Seed Trade Convention at Toronto.

New Container Plant At Longview

Paul Wineman, formerly of San Francisco, is the new Northwest representative of the Longview Fibre Company of Longview, Washington, for the new Long-fibre box board which the company will start producing soon after July first. Mr. Wineman arirved in Longview about June 1 and will soon birng his family from San Francisco.

Machinery installation is underway in the 300x200-foot plant addition, where the new board will be produced. This structure has been built adjoining the east end of the 1,000-foot Longview Fibre Company pulp and paper mill and thus is served by an extension of the spur tracks. The building is of concrete, with fine cement floor and timber roof.

C. J. Bastedo, a well known figure in the paper container industry on the Coast, will direct sales from the San Francisco office.

D. D. Stewart, also well known to the trade, is to have charge of production in the new plant.

Stern In New Box Factory

Completely installed in their new quarters at 230 Howard Street, the A. W. Stern Folding Paper Box Company, are continuing the manufacture of their line of mountings, foldings and fancy die cut business. The company was formerly located at 515 Howard Street.

The new addition to the Pacific Straw Paper & Board Company plant at Longview, Washington, is expected to be completed some time next month.

Simplification Program for Ice Cream Cartons

The Division of Simplified Practice of the Bureau of Standards, Depatrment of Commerce is seeking simplified practice on ice cream brick molds and cartons. There is embodied in this recommendation a simplified schedule of dimensions for the two gallon ice cream mold, and for the machine-filled pint and quart cartons, for brick ice cream.

New Paper Box Factory

The Los Angeles Paper Box Company is building a new one-story factory at 2615 Pitt Street, Los Angeles. at a cost of $75,000.

ANNUAL MEETING

Pacific Coast Paper Box Manufacturers Association

VICTORIA, B. C.
June 23, 24 and 25

Gaylord Extends Coast Offices

Charles Baum, San Francisco, Pacific Coast manager for Robert Gaylord, Inc., St. Louis, manufacturers of fibre boxes, reports that his firm has opened a number of offices recently along the coast and now has a sales chain extending from Los Angeles to Vancouver, B. C. J. D. Waller has the Seattle office, Paul Westernoff is in Portland, P. J. McMurphy, of the Empire Box Co., Ltd., Vancouver, B. C., has charge of Gaylord sales in his city and George Washburn is in Los Angeles.

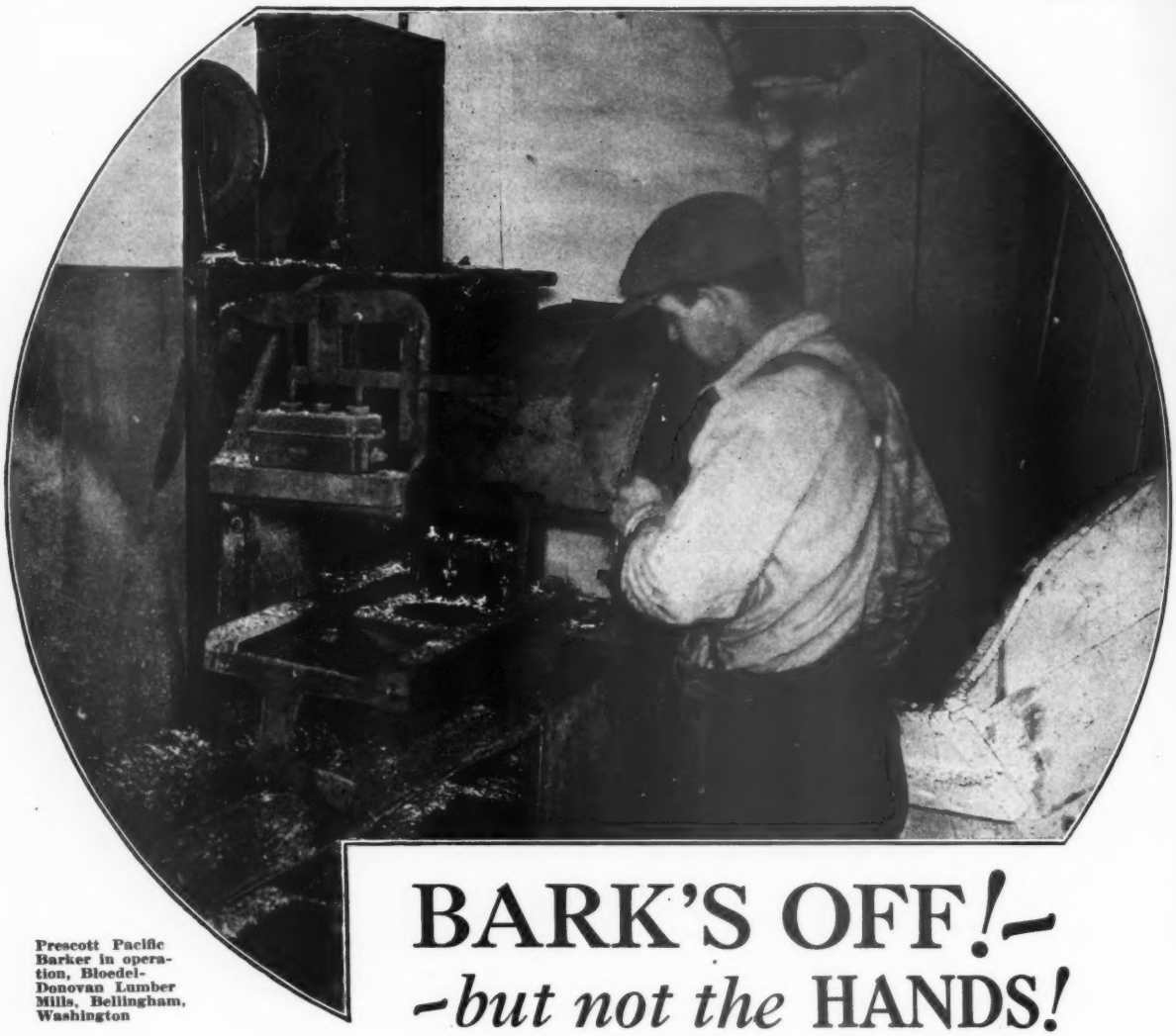
PRODUCTION OF BOXBOARD

MARCH, 1930
Unit—Short Tons
Based on Reports to the U. S. Department of Commerce

	Production	Per Cent of Capacity	New Orders	Unfilled Orders End of Month	Stocks End of Month
1930—					
March	229,253	74.6	220,543	66,870	68,333
February	230,287*	81.2*	217,291*	71,741*	69,880*
3 mos. ending Mar.	687,854	76.6	683,224	.....	.....
1929—					
March	256,118	83.4	266,895	96,209	54,982
3 mos. ending Mar.	732,442	81.5	735,576	.....	.....

*Revised.

The — PRESCOTT PACIFIC BARKER



Prescott Pacific Barker in operation, Bloedel-Donovan Lumber Mills, Bellingham, Washington

BARK'S OFF!— *—but not the* HANDS!

Here's the humane, efficient Barker the lumber industry's been wanting . . . . . the Prescott Pacific Barker now in complete operation at the Bloedel-Donovan Lumber Mills at Bellingham. Here it has demonstrated that it does a quicker job and does it better. Cuts man power in half, doubles capacity. No danger to workers, knife is out of the way, guard keeps chips from flying. Operator does not touch wood, merely raises and lowers head to fit the contour of the slab. Write us for complete information and quotations.

FALK

Speed Reducers and Couplings carried in stock at our Seattle plant for quick shipment to Pacific Coast industries.

We are direct factory distributors of the Falk Corporation.

THE PRESCOTT COMPANY

TWO FULLY EQUIPPED PLANTS

PRESCOTT MENOMINEE

MENOMINEE MICHIGAN

SEATTLE WASHINGTON

PRESCOTT SEATTLE

New Types
New Models
New Machines

EQUIPMENT

Manufacturers of, and dealers in, equipment used by pulp and paper mills, board manufacturers, converting plants, paper merchants, or any other branch of the industry may make their announcements in this department.

New Dealers
New Branches
Appointments

Walter Hodges In New Office

Looking to improved service to the Pacific Coast pulp and paper mills which he has long served, Walter S. Hodges opened new offices in 311 Lewis Building, Portland, on June 1. Mr. Hodges, formerly a part of the industry itself on the Coast, has in the past few years been representing two Appleton, Wisconsin, manufacturers of machine clothing in the Coast territory. These two are the Appleton Wire Works, Inc., and the Appleton Woolen Mills. Mr. Hodges also represents the American Wringer Co., Inc., of Woonsocket, R. I., and Farnham, Quebec.

A New Type Barker

The ever-with-us problem of how to bark sawmill waste and get paying quantities of good pulp wood without eating up the profits in handling has brought forth one new device to clean up the slabs. The device is called the Pacific Barker. The Prescott Company of Seattle, its manufacturers, have made an initial installation in the big lumber mills of the Bloedel Donovan Lumber Company at Bellingham, Washington.

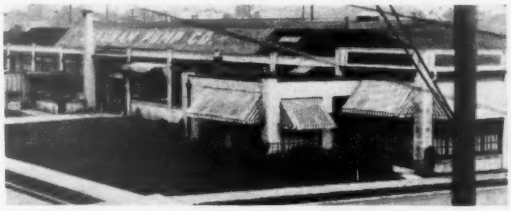
At Bellingham the Pacific barker has been installed to work in conjunction with the usual type of hand barkers. Where only ten cords of barked slabs had been turned out in eight hours with a unit of four hand barkers at the Bloedel mill, now with the addition of a Pacific barker the output for the unit is 20 cords a day with the addition of one man. Superintendent John W. McMahon of the Bloedel mill believes that addition of a fifth hand barker in the unit will permit a total output of 25 cords of clean slabs per day.

In its mechanics the Pacific Barker differs in that it departs from the idea of the stationary cutter head and places the cutter above the slab on a movable swinging arm. The 15 HP motor which drives the cutter is swung in a cradle on this arm at the back of the machine and the whole is nicely balanced so that raising and lowering the cutter to accommodate the size of the slab is easily accomplished.

The wood passes under the cutter head, bark up, being carried in a six-inch-wide trough at the bottom of which runs a conveyor chain. The wood is fed to the barker at 65 feet per minute, but with some adjustments it is hoped to raise this speed considerably.

In operating the barking unit at the Bloedel mill the slabs are picked off the conveyor and run thru a bolter to provide a maximum width of six inches. Those few slabs which are particularly difficult because of their shape are cleaned up in a hand barker. All other slabs go thru the automatic Pacific barker. The remaining hand barkers clean up any skips. Clean slabs are piled by hand on two chains which may be moved up as required and run right over the truck to be automatically loaded.

As an interesting sidelight it is worthy to comment that the Bloedel Donovan Lumber Mills afford a good illustration of the modern tendency in Pacific Coast sawmills to conserve all of the log. A number of ideas have been brought forth at the Bloedel mills in recent years to effect closer utilization. This basic idea of close utilization last year returned to the Bloedel mills more than $500,000 for material formerly wasted.



Bingham Pump Company is now established in its new factory in Portland which provides ample space for both its manufacturing and laboratory activities. The new plant is equipped to test pumps of practically every size used by the industry. The layout and increased space, coupled with the centralized location with respect to the industry, enable Bingham to offer a quick service.

Alec C. Duncan Makes Trip East

The plant recently established by the Paper Makers Chemical Corporation at Portland to serve the growing pulp and paper industry of the Pacific Coast is undergoing a series of "beauty treatments" under the guidance of Alec C. Duncan, resident manager and Pacific Coast representative.

The buildings are being extended and stuccoed, a road and garage are being built, and an attractive industrial fence is being erected about the property. Meanwhile Mr. Duncan, reporting that things are going well as can be expected, left Portland the last of May to visit the East for three weeks.

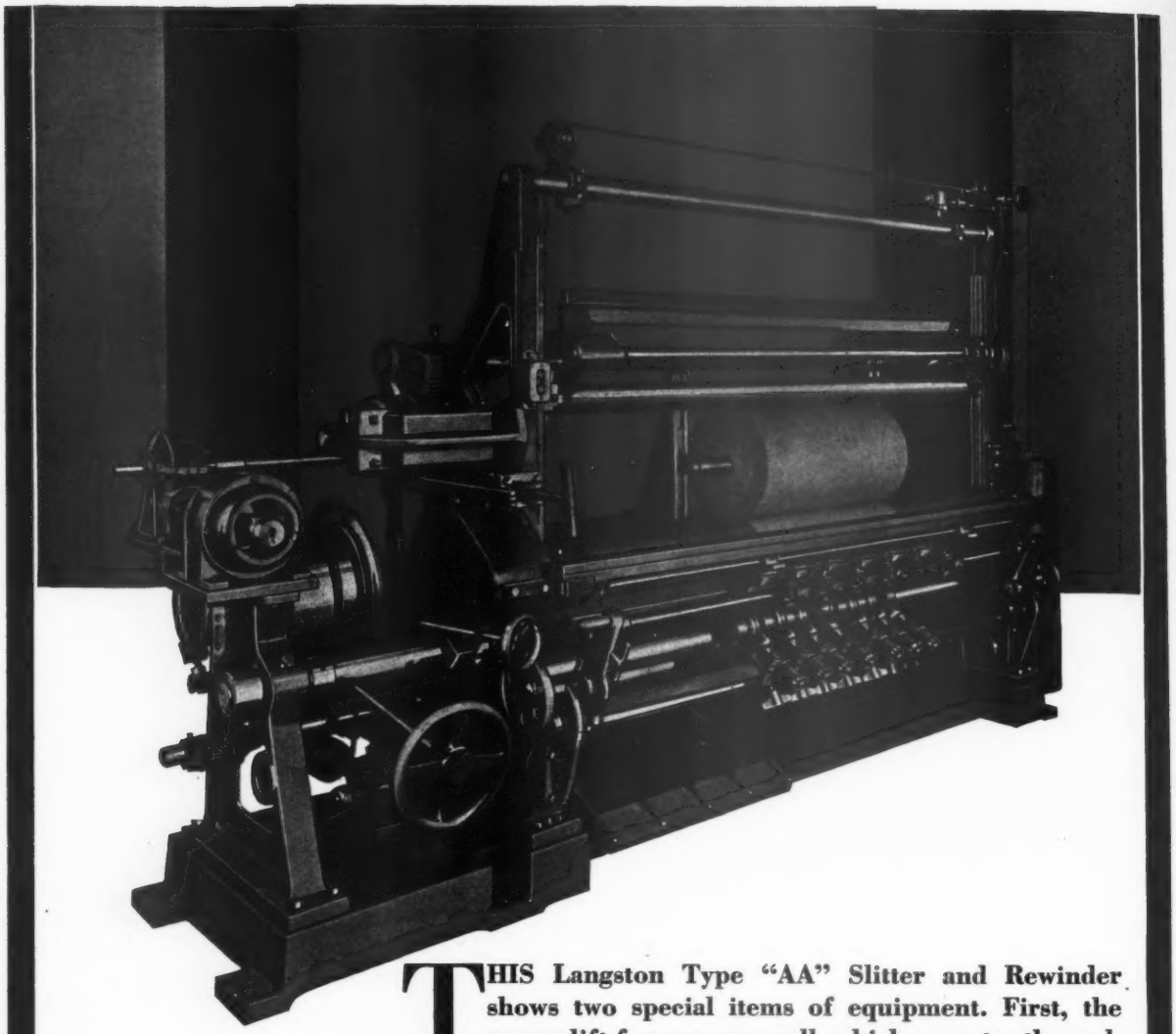
E. G. Drew In New Location

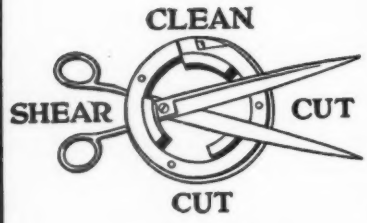
Effective June 1 E. G. Drew moved his offices from the American Bank Building to 311 Lewis Building, Portland. Mr. Drew has been on the Coast for nearly three years representing the J. O. Ross Engineering Corporation, specialists in steam economy and heating and ventilating problems, and the John Waldron Corporation, manufacturers of paper converting equipment. Mr. Drew also represents the Nichols Products Corporation.

Salem Mill To Install Filter Plant

The Oregon Pulp & Paper Company at Salem, Oregon, is planning the construction soon of a water filter plant and is working with the California Filter Company on the plans. The investment will be approxi-

Abitibi Power & Paper Co., Ltd., has closed its six-machine news print mill at Espanola, Ontario, and prospects are the mill will be down all summer. Abitibi has made production curtailments also in its other mills, notably at Sturgeon Falls.





THIS Langston Type "AA" Slitter and Rewinder shows two special items of equipment. First, the power lift for pressure roll, which operates through a push button and a motor and worm wheel drive, locking the roll in any position. Second, the Koegel-Langston type of shear cutters—particularly useful for wax papers, as the wax will not build up on the cutting edges—they are easily sharpened and set. The Type "AA" is built with 5″ and 8″ winding drums . . . roller bearing wherever room will permit . . . furnished in widths up to 75″.

SAMUEL M. LANGSTON COMPANY, Camden, New Jersey

LANGSTON SLITTERS

S·A·F·E·T·Y

FIRST — LAST — ALWAYS

The best safety device known is a careful man

Pacific Coast Division
Pulp and Paper Section
NATIONAL SAFETY COUNCIL

ROBERT H. SCANLON
Regional Director
Powell River Co., Ltd.
Powell River, B. C.

Safety Meeting This Fall

Those who had the good fortune to attend the organization meeting at Powell River, B. C., on February 12 when Regional Director Robert H. Scanlon initiated the formation of the Pacific Coast Division, Pulp and Paper Section, of the National SAFETY Council, remember with great anticipation the invitation to meet at Powell River again next spring, an invitation extended by the Powell River Company thru its resident manager, Robert Bell-Irving.

In this anticipation there is just a slight inclination to overlook the work to do in the interim. At Powell River it was voted to hold semi-annual meetings, one in the spring and one in the fall. Plans for the meeting place and program of the fall meeting are progressing and definite announcements are looked for soon.

With the wonderful start given to organized SAFETY work in February the fall meeting should be an enthusiastic one. The Pacific Coast Division has an aggressive leader in Mr. Scanlon. Organized SAFETY work needs no apology by reason of its very nature. Its results hit the middle of the balance sheet, but are sometimes intangible to the undiscerning. It is a work with great economic-humanitarian values.

A single gear can do good work. A group of gears each operating independently can do some good work. But there's a lot more steady forceful power if they are all in mesh. Make your plans now to sit in on the coming Fall meeting.

A Few Recent Accidents—Be Careful

The following accidents are actual occurrences in Pacific Coast mills in recent weeks:

Hand caught in winder on paper machine. Badly bruised.

Employe in wood room suffered two broken toes and badly bruised back in handling materials in wood room. A hospital case.

A piece of sheet iron was permitted to slip through a slot in the floor where new construction was in progress. The piece struck a workman on the floor below who was severely bruised and cut. A hospital case.

Man stepped on starting pedal of electric truck when truck was in gear. Truck started forward and pinned man's leg against the wall. A bad bruise and some time in the hospital.

Strong winds shook a hogged fuel conoveyor line in the course of erection and tumbled it to the ground, precipitating two workmen into a near tragedy.

STATEMENT OF ACCIDENT EXPERIENCE—APRIL, 1930

Mills in State of Washington

COMPANY—	Hours Worked	Total Accidents	Frequency Rate	Days Lost	Severity Rate	Standing
Inland Empire Paper Co.	60,591	0	0	0	0	1
Columbia River Paper Co.	48,292	0	0	0	0	2
Everett Pulp & Paper Co.	81,088	0	0	5	.062	3
Shaffer Box Co.	11,740	0	0	13	1.107	4
Rainier Pulp & Paper Co.	65,210	2	30.7	14	.215	5
National Paper Prod. Co.	91,294	3	32.9	10	.110	6
Washington Pulp & Paper Corp.	96,311	4	41.5	32	.332	7
Pacific Straw Paper and Board Co.	18,064	1	55.3	6	.332	8
Crown Willamette Paper Co., Camas	451,324	25	55.4	2263	5.014	9
Grays Harbor Pulp & Paper Co.	86,735	5	57.6	23	.265	10
Puget Sound Pulp & Timber Co., Fidalgo Division	24,436	2	81.8	28	1.146	11
Fibreboard Products Inc., Port Angeles	46,664	4	85.7	32	.686	12
Union Bag & Paper Power Co.	66,731	6	89.9	121	1.813	13
Puget Sound Pulp & Timber Co., San Juan Division	29,328	3	102.3	8	.273	14
Longview Fibre Co.	88,750	11	124.0	228	2.569	15
Fibreboard Products Inc., Sumner	21,735	3	138.0	17	.782	16

The following mills not reporting: Cascade Paper Co., not in operation; Pacific Coast Paper Mills; Tumwater Paper Mills, not in operation.

Bellingham Mill Reported Busy

Pacific Coast Paper Mills, operating a tissue paper mill and converting plant at Bellingham, Washington, reports good business. Recently the company has installed a new towel folder which has increased the daily capacity by 100 cases. A new Jordan has also been placed and is adding to the efficiency and capacity of the plant. The factory is running on an extra shift basis.

Leadbetter Goes Cruising

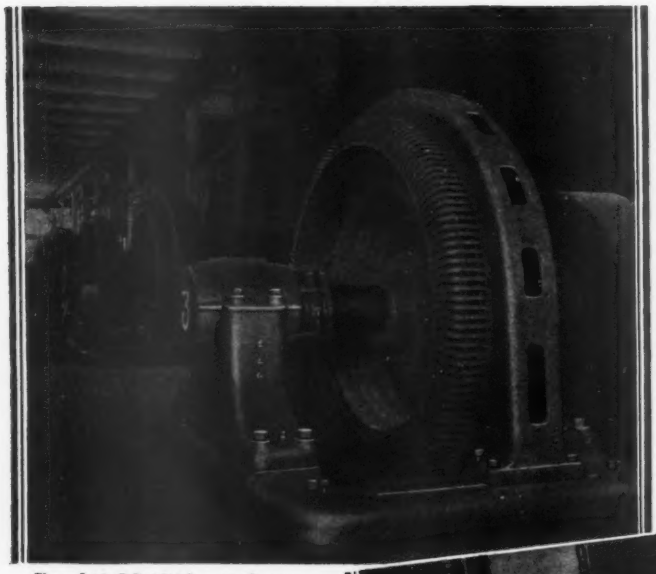
Tossing care behind, F. W. Leadbetter, president of a group of Pacific Coast paper mills controlled by the Columbia River Paper Company, a holding company, last month ordered out his 90-foot steel yacht Caroline and cruised north for a fishing and hunting trip to British Columbia and Alaskan waters.

With him were his daughter, Miss Dorothy Leadbetter, and General A. S. Fleming and Mrs. Fleming. General Fleming is secretary of the Oregon Pulp & Paper Company, one of the Leadbetter mills.

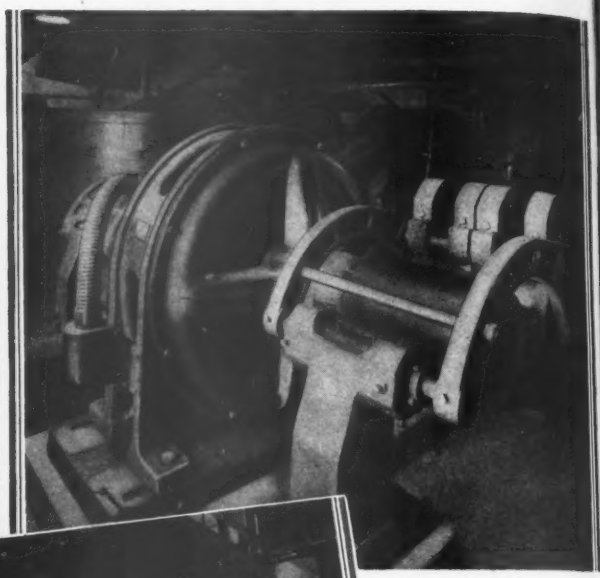
Crown Zellerbach Declares Dividend

Directors of Crown Zellerbach Corporation at a meeting Thursday, May 22, declared the regular quarterly dividend of 25 cents per share on the common stock, payable July 15, 1930 to stockholders of record June 30th.

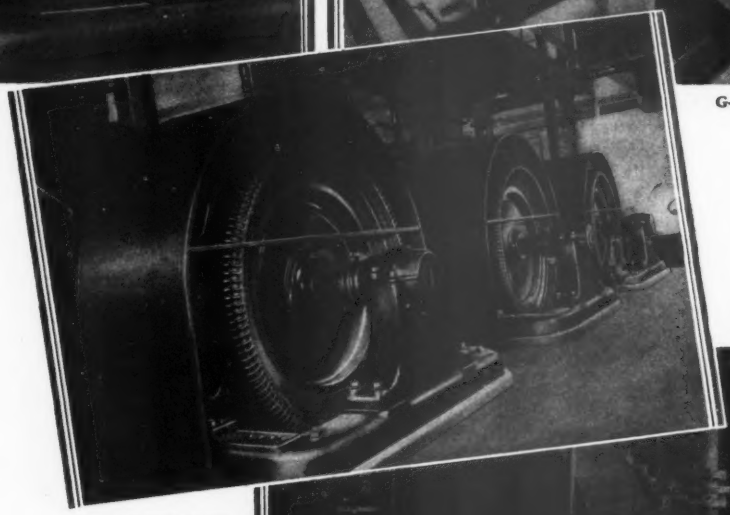
G-E SYNCHRONOUS MOTORS



Five of 15 G-E 2600-hp., synchronous motors driving thirty magazine grinders



G-E 150-hp. synchronous motor driving a beater



Three G-E 1250-hp. synchronous motors driving magazine pulp grinders

Three G-E 100-hp. synchronous motors driving vacuum pumps

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

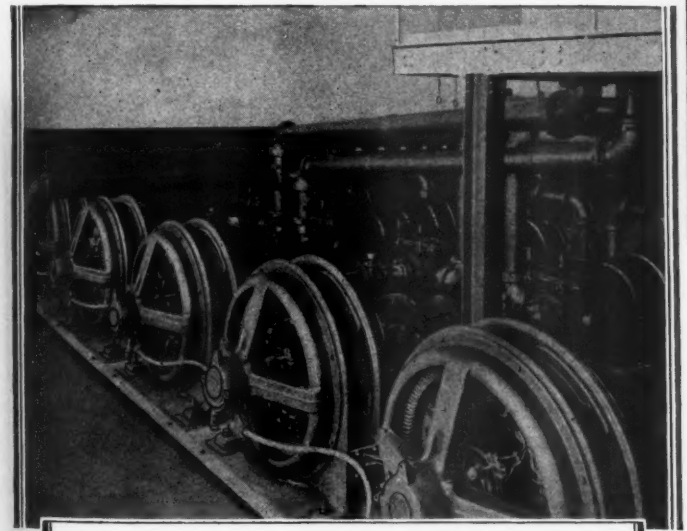
GENERAL

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y.

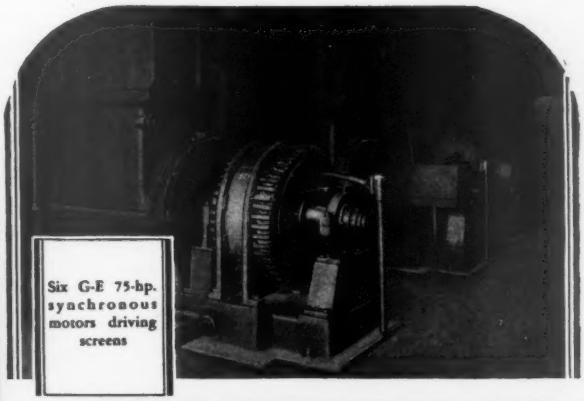
Designed and built with experience Applied with confidence

TO THE paper industry, General Electric offers a valuable store of practical experience gained through years of successful design and manufacture of synchronous motors and their application to unusual as well as ordinary drives. G-E engineers are in close touch with a wide field of synchronous-motor applications; G-E synchronous motors are available from the smallest industrial drive to the electrical giants that operate magazine grinders.

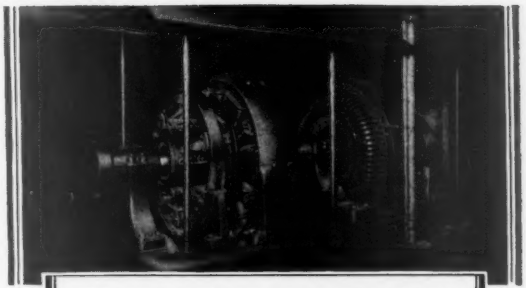
There is a G-E office near you, and there you will find capable engineers, ready and willing to help.



Five G-E 150-hp. synchronous motors direct-connected to Jordan engines



Six G-E 75-hp. synchronous motors driving screens



G-E 500-kw. synchronous motor-generator set used for stand-by service in a paper mill

107-64

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

The New Williams Sheet Dryer

Dries Hand Sheets Same as Paper on Big Paper Machine

FEATURES—

1. *Electric Heat, Thermostat Control.*
2. *Sheet clamped under dryer canvas.*
3. *Drys sheet flat in 4 - 5 minutes.*
4. *Heavy polished copper top.*
5. *Large drying surface, 20x20 inches. Four 8x8-inch sheets may be dried at a time.*

WILLIAMS APPARATUS COMPANY

WATERTOWN, N. Y.

When writing to WILLIAMS APPARATUS CO. *please mention* PACIFIC PULP AND PAPER INDUSTRY

Paper Production and Sales in Japan

MARCH, 1930

	Production Pounds	Sales Pounds
Printing Paper (Superior)	13,484,491	15,867,700
Printing Paper	9,280,303	11,847,881
Drawing Paper	1,965,252	2,944,999
Simili Paper	10,790,230	11,000,783
Art Paper	1,879,042	1,470,714
News Paper	45,354,165	45,580,565
Sulphite Paper	2,598,049	3,133,589
Colaured Paper	1,267,237	1,348,607
Wrapping Paper	9,966,623	10,350,464
Chinese Paper	2,145,096	2,117,071
Board Paper	5,964,561	6,192,379
Sundries	6,884,686	8,210,023
Total	111,579,735	120,064,775

New Canadian Tariff

The new Canadian tariff, announced at Ottawa by Hon. C. A. Dunning, contained welcome news for loggers and pulp and paper manufacturers inasmuch as certain reductions were made in the duties on machinery used by their industries.

Pulp and paper machinery is made free under the British preferential tariff which forms a part of the Dunning tariff proposals, but slightly increased protection is given under the general tariff. Duties on logging and sawmill machinery in some instances is cut 20% to 30%.

The general tariff on pulp from straw, cane, cornstalks, etc., has been maintained. The principle of a countervailing duty on certain commodities provides that Canada, while not generally raising its tariff, imposes upon such products from another country rates equivalent to those imposed by that country upon the identical Canadian product, where these are higher than the rates enumerated in the Canadian schedule. Other countries whose rates are higher than Canada's on certain products therefore have it within their power to reduce their own rates if they desire Canadian goods on the same tariff basis.

The Canadian policy was enunciated by Mr. Dunning, minister of finance, as follows:

"Canada will not engage in a tariff war with any country. The world shows at the present time too many examples of disaster following such a course. As a great exporting nation our course must be the contrary one of facilitating trade with those who facilitate trade with us. Those who raise prohibitive barriers against our products entering their markets must expect that we will extend favor to our own good customers rather than to them."

New Product At Sidney Roofing Plant

Sidney Roofing & Paper Company, Victoria, B. C., will shortly commence construction of a factory on the Industrial Reserve area for the manufacture of insulation board from waste material of shingle mills, according to R. W. Mayhew, managing director of the company.

Cost of the new factory will be about $200,000 and about 40 men will be employed in the first unit.

Mr. Mayhew has been closely following experiments in utilization of mill waste in various parts of the country and he and his own staff have carried on considerable research work in this line. Recently he sent samples of his product to Springfield, Ohio, for testing and the reports were exceedingly favorable, according to Mr. Mayhew.

The insulation board to be produced by Sidney Roofing & Paper Company is half an inch thick, light in wight, strong, rigid and light brown in tint. It will be produced for constructional and industrial uses, Mr. Mayhew explains, its function being protection from heat and cold.

The Sidney Roofing & Paper Company was established shortly after the war by Mr. Mayhew and a few associates who had sufficient courage to launch a venture shrouded mostly in uncertainty. For a while the company was supported by government loans authorized under soldier industry legislation, but long ago these loans were paid off. The plant's original plant at Sidney, B. C., was dismantled and a bigger new factory established in Victoria's inner harbor. This plant has been enlarged several times since then. Roofing products, heavy paper and cardboard are among the company's products.

Canadian Merger

St. Lawrence Corporation Ltd. has been organized as holding company to bring under one management St. Lawrence Paper Mills Co. Ltd., Lake St. John Power & Paper Co. Ltd. and Brompton Pulp & Paper Co. Ltd. Assets involved: Mills at East Angus, Bromptonville, Dolbeau and Three Rivers, all in Quebec. Brompton also owns Claremont mill in New Hampshire. Total daily tonnage, 1,000 tons newsprint. Also extensive water power properties, both developed and undeveloped, and timber lands containing 20,000,000 cords.

New officials: President, Earl Rossiter of St. Lawrence; chairman of board, N. A. Timmins of St. Lawrence. Capitalization: Total assets exceed $68,000,000. This merger believed to be fore-runner of greater Canada-wide merger to exceed $250,000,000.

Benefits claimed: Annual savings of $500,000, centralized control, improved distribution of production.

The St. Lawrence merger puts 75% of all Canada's news capacity in control of six companies.

Object to Powell River Power Award

Altho the right of the Powell River Company to the Lois River water power is not seriously questioned, Union Power Companies have filed an objection to the proposal to make use of this power by the pulp and paper company.

The objection will go before the provincial water board at a session in the near future. United Power Companies, according to their officials, claim that they held power concessions at Lois River as far back as 1918, while Powell River Company did not make a bid for this power until last year.

Consolidated Mining & Smelting Company was another recent applicant for Lois River power, and executives of United Power Companies claim that at the time Consolidated withdrew in favor of Powell River Company they were negotiating with Consolidated for transfer of their rights to Consolidated, the latter company withdrawing its application without the knowledge or consent of United.

Two suits were filed in circuit court last month at Marshfield, Oregon, against the Sitka Spruce Pulp & Paper Company. An equipment company is asking judgment on three notes and the other suit is on an assigned account. The Sitka Spruce Pulp & Paper Company began production in a new 50-ton unbleached sulphite pulp mill and saw mill at Empire in November, 1929.

If It's BAKERMADE—Eventually it Costs Less

Over 1000
BAKER PATENT
SPLIT WINDER SHAFTS
Now In Use

Over a thousand Baker Patent Split Winder Shafts now in use are ample evidence of Baker quality and Baker dependability. ¶ To prevent diameter variation, a forged special carbon steel shaft is turned to micrometer exactness—precludes any eccentric wobbling or "running" of either shaft or core—assures easy and quick removal of both segment and shaft. The segment is made of specially treated alloy steel. ¶ Especially designed for use where paper is wound directly to the shaft—for the making of paper cores—for use on any winder. Built to any specified diameter. Delivery within five to six days. ¶ Built the BAKERWAY—trouble free—insuring much less wear and considerably longer life.

Read What Mills Say:

"The best shaft on the market"

"Easiest to remove,—time and labor savers"

"Does not take long to save its first cost"

"Have never found a shaft to take its place"

"Far superior to others we have had"

Read What Mills Say:

"Saves its cost many times over"

"Have been using your Split Shafts for years; always found them reliable and satisfactory"

"Outwears any shaft we have had"

"Best Shafts we know of. Wear longest, easiest collapsed and give no trouble.

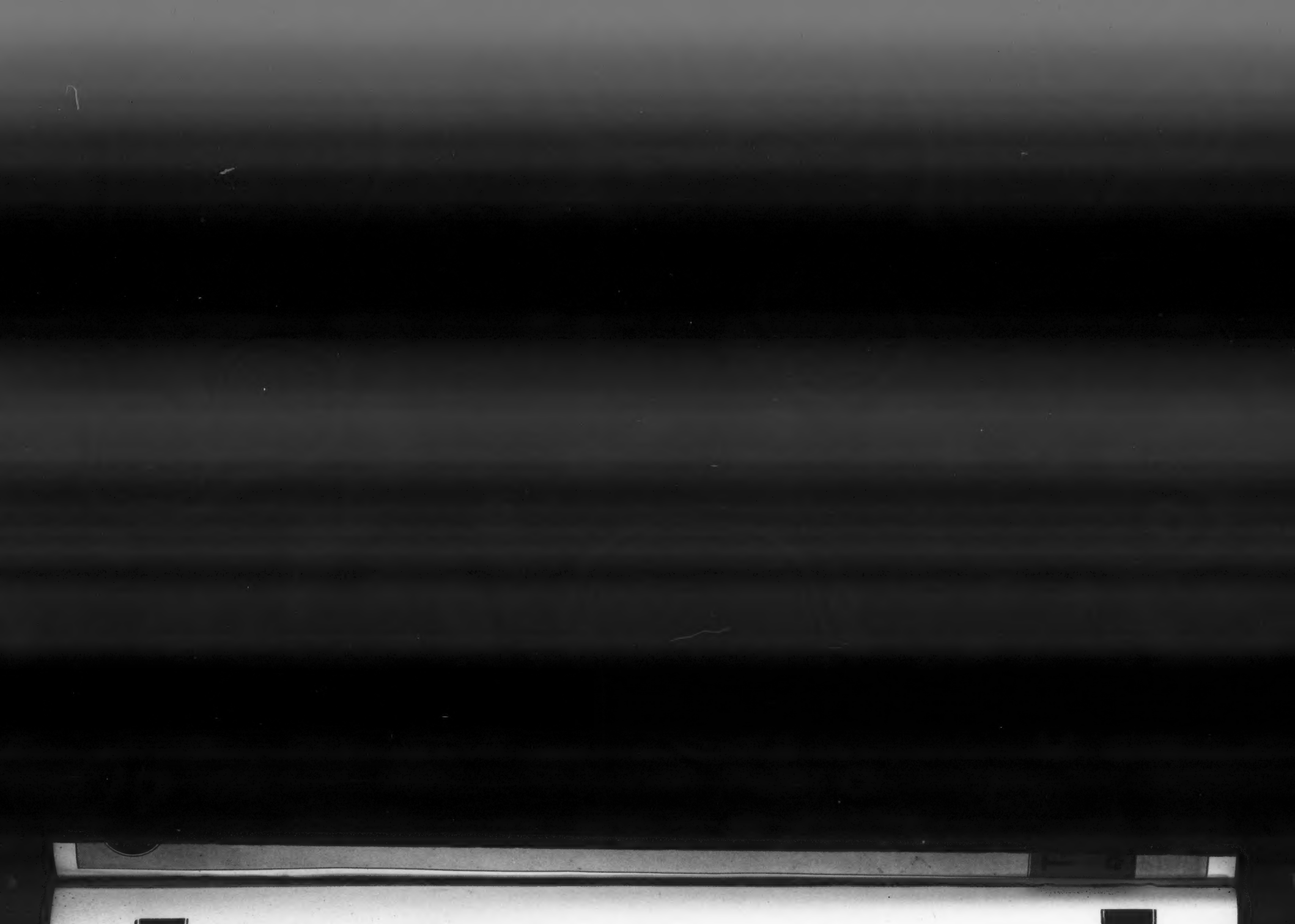
The Baker Corporation

SINCE 1881

Saratoga Springs, N. Y.

A Half Century of Experience

When writing BAKER MANUFACTURING CO., *please mention* PACIFIC PULP AND PAPER INDUSTRY



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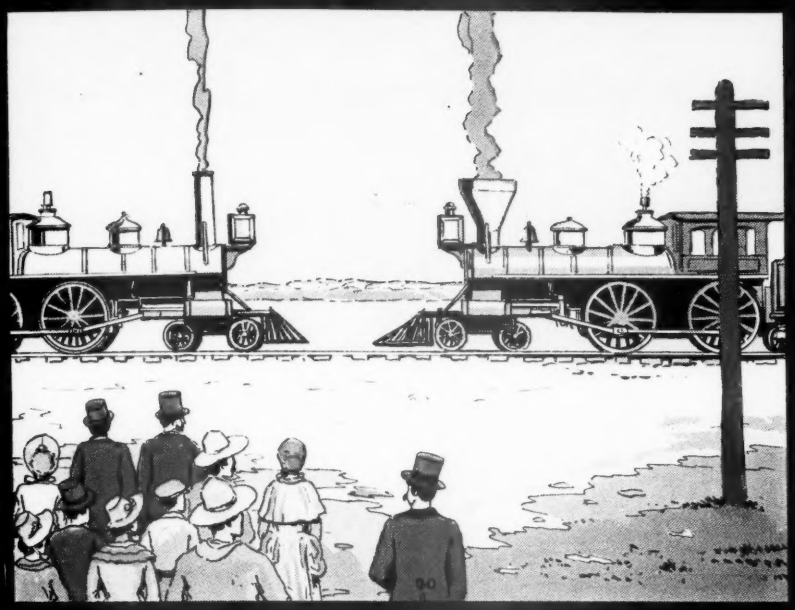


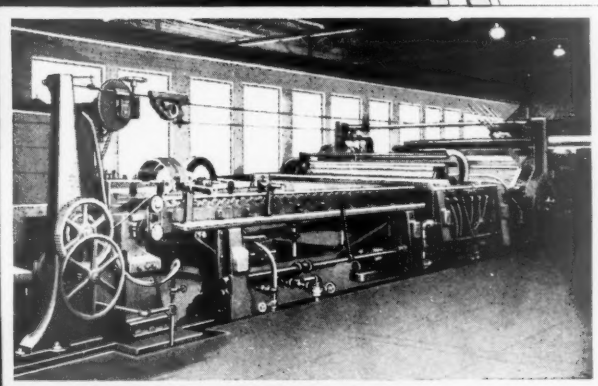
WHEN THEY DROVE THE GOLDEN SPIKE AT OGDEN

And celebrated the opening of the first Transcontinental railway back in the seventies, paper making machines were just about as rough and inefficient as the old wood-burning engines.

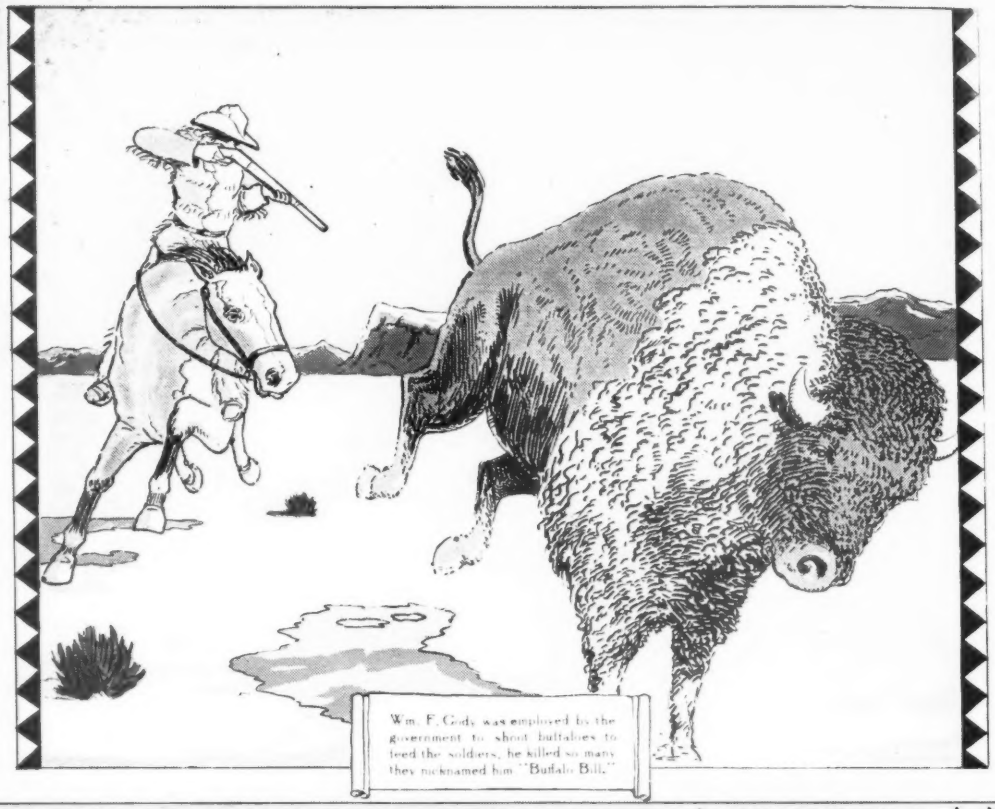
About that time two men in Hamilton, Ohio, started building paper mill machinery improving the machines of the time, and developing new ones to take their place.

How well they have wrought is suggested by the growth of the Company they founded, which, with Shartle Brothers have become the largest builders of paper making machinery in the world.

Among the many Black-Clawson contributions to the cause of "better machines more accurately built" we name just three: Press Part Improvements, Vertical Dryers, Fourdrinier Improvements.



THE BLACK-CLAWSON CO.
HAMILTON, OHIO
EXPORT OFFICE - 15 PARK ROW - NEW YORK, N.Y.



Wm. F. Cody was employed by the government to shoot buffaloes to feed the soldiers, he killed so many they nicknamed him "Buffalo Bill."

WHEN CODY GOT HIS NICKNAME

and Paper Machinery Was in the Crude

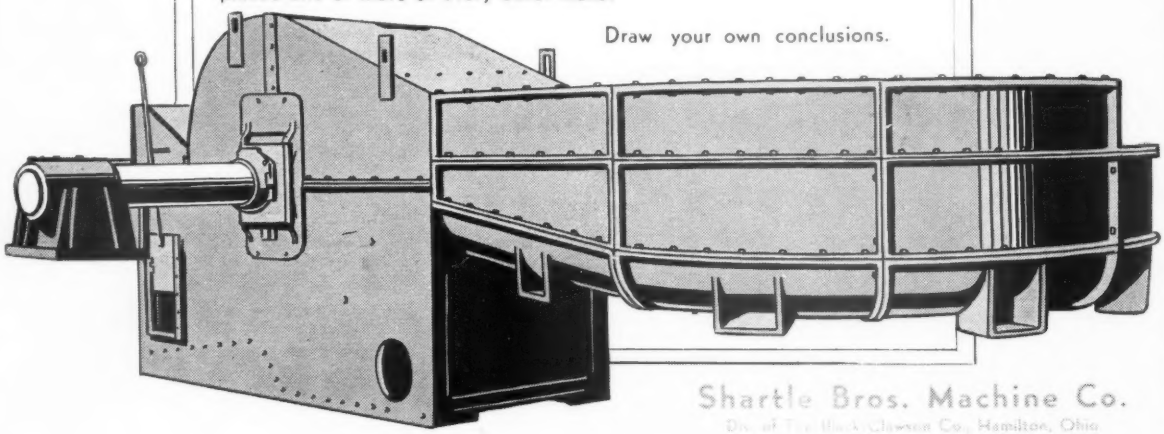
Stock was being beaten in "pint size" tubs the little old hollanders of the time. And, aside from enlarging, little improvement was noted in beaters until Charlie Shartle introduced continuous beating.

Today continuous beating is the accepted method, and the Shartle Breaker, the overwhelming choice of those with an eye to save time and labor.

In old mills revamping their layouts and in new mills entering the field, the Shartle Breaker finds its place as a matter of course.

Again, a statement we are fond of making, "No competitive breaker has ever permanently displaced a Shartle, while the Shartle has displaced one or more of every other make."

Draw your own conclusions.

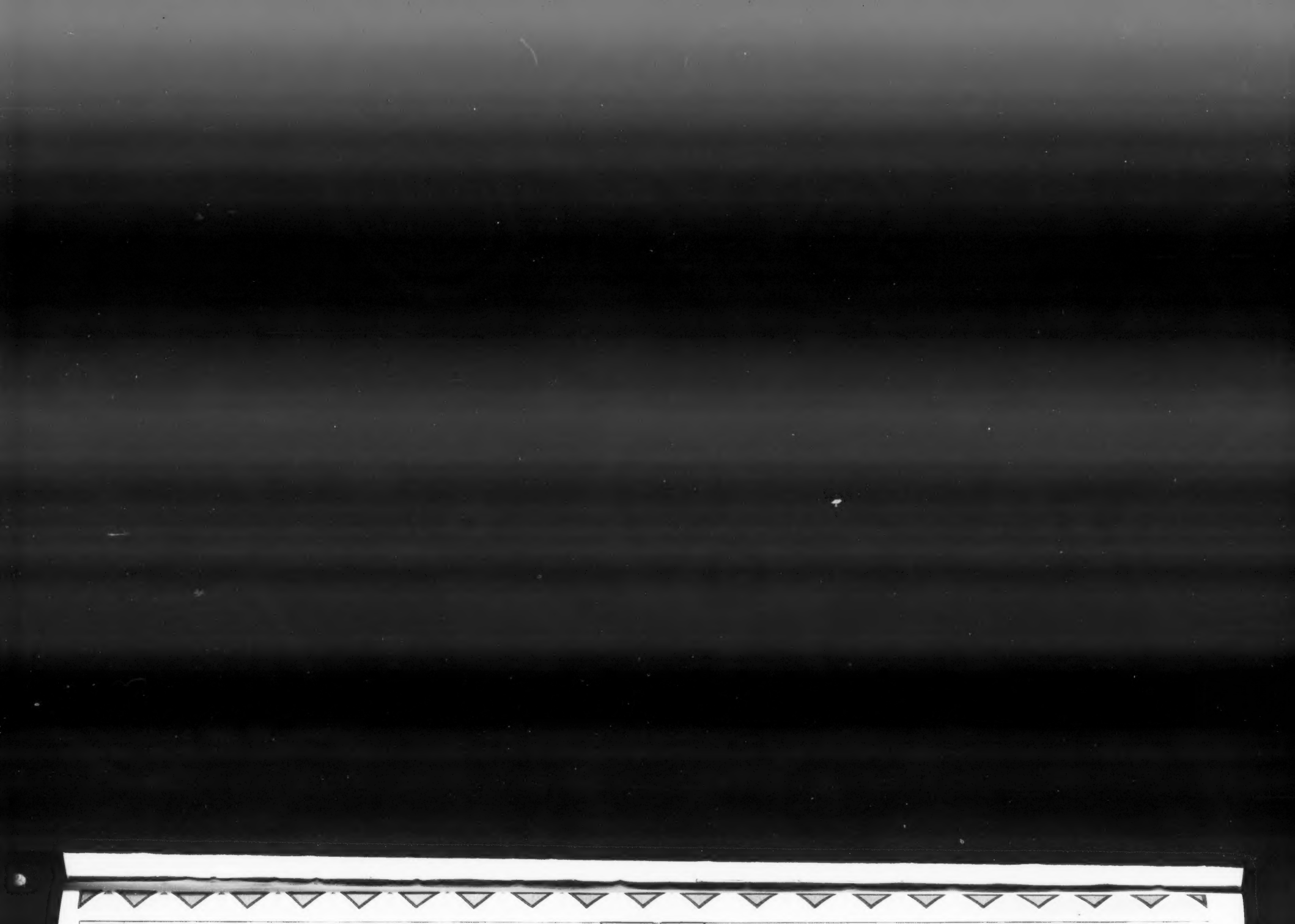


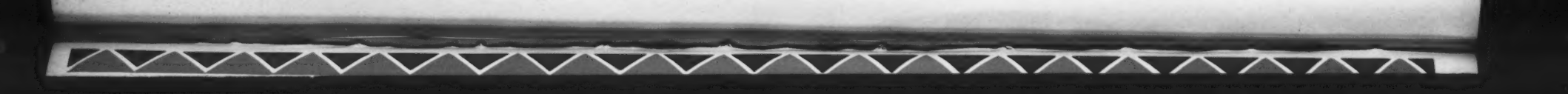
Shartle Bros. Machine Co.

Div. of The Black-Clawson Co., Hamilton, Ohio

MIDDLETOWN, OHIO

Export Office: 15 PARK ROW, NEW YORK CITY





Canadian Exports of Pulp and Paper April, 1930

Exports of wood-pulp and paper from Canada in April were valued at $12,199,194, according to a report issued by the Canadian Pulp and Paper Association. There was a decrease in value from the previous month of $5,967,100 which is usual for the month of April.

Wood-pulp exports for the month were valued at $2,631,122 and exports of paper at $9,568,072 as compared with $4,704,595 and $13,461,699 respectively in the previous month.

Shipments of the various grades of wood-pulp and paper for the month of April, 1930 and 1929, were as follows:

	April, 1930		April, 1929	
PULP—	Tons	Dolalrs	Tons	Dollars
Mechanical	7,717	216,190	11,763	342,652
Sulphite Bleached	18,205	1,340,788	18,146	1,424,190
Sulphite Unbleached	14,646	718,391	14,174	708,957
Sulphate	5,352	312,165	10,531	627,837
Screenings	1,349	22,566	2,924	51,714
All other	353	21,022	.....	.....
	47,622	2,631,122	57,538	3,155,350
PAPER—				
Newsprint	159,802	9,199,882	162,381	9,747,536
Wrapping	1,298	136,301	714	79,392
Book (cwts.)	3,001	28,690	4,276	33,799
Writing (cwts.)	278	2,074	1,763	14,735
All other	.....	201,125	.....	238,485
		9,568,072		10,113,947

Pulp and paper exports for the first four months of the year amounted to $59,919,763 as compared with $63,062,391 in the first four months of 1929, a decline for the current years of $3,142,628.

Wood-pulp exports for the period were valued at $14,826,371 and exports of paper at $45,093,392, as compared with $14,013,625 and $49,048,766 respectively in the first four months of 1929.

Details for the various grades are as follows:

	Four Months, 1930		Four Months, 1929	
PULP—	Tons	Dolalrs	Tons	Dollars
Mechanical	62,957	1,852,451	51,551	1,403,197
Sulphite Bleached	97,246	7,249,267	87,846	6,707,548
Sulphite Unbleached	70,388	3,504,462	59,351	2,966,742
Sulphate	35,818	2,037,441	46,173	2,767,300
Screenings	8,883	161,728	8,751	168,838
All other	353	21,022	.....	.....
	275,645	14,826,371	253,672	14,013,625
PAPER—				
Newsprint	748,031	43,146,636	776,064	46,949,419
Wrapping	4,996	527,410	5,206	568,324
Book (cwts.)	14,378	135,657	27,667	226,386
Writing (cwts.)	753	6,913	3,005	25,287
All other	.....	1,276,776	.....	1,279,350
		45,093,392		49,048,766

Exports of pulpwood for the four months totalled 447,079 cords valued at $4,106,830 as compared with 399,972 cords valued at $3,575,602, exported in the first four months of 1929.

SHIPMENTS OF OVERISSUE NEWSPAPER

From Pacific Coast Customs Districts—March, 1930

From Los Angeles

Country of Destination—	Pounds	Dollars
To China	4,651,000	34,171
To Hong Kong	3,419,120	34,867
To Philippines	660,000	5,023
To Kwantung	168,000	1,180
To British Malaya	112,000	785
To Java	5,440	40
To Other East Indies	375,840	4,751
Total	9,391,400	80,817
From San Francisco		
To China	952,000	6,188
To Nicaragua	22,500	287
To Java	27,400	192
To Japan	112,000	776
To Kwantung	140,000	910
To Australia	4,000	50
Total	1,257,900	8,403
From Oregon		
To China	280,000	1,960
Pacific Coast Total	10,929,300	91,180

Crown and Zellerbach Offices Consolidated

The executive offices of the Crown Zellerbach Corporation were consolidated in the Crown Zellerbach Building at 343 Sansome Street, San Francisco, last month.

All of the executive offices were moved as well as the offices of the Crown Willamette Paper Company, Washington Pulp & Paper Company, National Paper Products Company, Pacific Coast Supply Company, and other subsidiary and affiliated companies.

These offices occupy over five floors of the new building, or approximately 30,000 square feet.

The executive offices, located on the 11th floor, are chiefly characterized by their splendid appointments. Each office has more the appearance of a private study than that of a business office. Beautiful murals, painted in accordance with the dictates of the occupant are on the mantels above the artificial fireplaces. The furniture was all personally designed. Each office is distinctive—Mr. I. Zellerbach's and Mr. J. D. Zellerbach's offices being treated in the lighter tones, whereas, Mr. Louis Bloch's office is distinguished by high panelling and more massive furniture. Mr. Higgins', Mr. Martin's and Mr. Mills' offices have been finished in Philippine mahogany, each one following a different color scheme. The office of Mr. McLaren has for its scheme the old English Tudor motif.

The Board of Directors' rooms is on the 10th floor. The remainder of the space on the 10th floor as well as the space on the 9th and 8th floors is occupied by the administrative and other executive offices of the Crown Zellerbach Corporation. The Crown Willamette Paper Company and other affiliated companies are located on the 7th floor.

The building itself is 12 stories in height and, in addition to this, there is a large space on the roof devoted to a recreational center for the employees of the Crown Zellerbach Corporation.

Hints Another B. C. Pulp Mill

Analysis of water available for a pulp mill near Maillardville, B. C., is now being made and if this proves satisfactory an early start may be made on construction of a pulp and paper mill there, according to Councillor T. Allard of the Coquitlam municipal council, who has been negotiating with James Rear, at Palo Alto, California.

According to R. C. MacDonald, the whole question is practically settled and there is every likelihood of the mill being built. The Rear interests, it is understood, have acquired extensive pulpwood limits in British Columbia and intend to utilize them in operation of the mill, details of the size of which have so far been withheld.

The proposed location is on property near the mills of the B. C. Mills, Timber & Trading Company (Hastings Mill), near New Westminster, on the Fraser River.

Maillardville is a small community near New Westminster.

Cascade Mill To Be Sold

The Cascade Paper Company, operating a 50-ton book paper mill at West Tacoma, Washington, which last month was thrown into receivership, is to be sold on June 15. D. J. Young of the Bank of California, Tacoma, receiver, in posting the mill for sale declared it to be hopelessly insolvent. Liabilities are in excess of $1,000,000. There has been considerable speculation on prospective bidders.

AN INVITATION

ALL of these men are experienced lubrication engineers. They are ready to serve you—for it is their job to aid you in solving your plant lubrication problems.

This is their invitation for you to call upon them for sincere, constructive advice. They will be glad to work with you for more efficient operation through improved lubrication. Just phone or write: Industrial Lubrication Engineer, Associated Oil Company, 79 New Montgomery Street, San Francisco. Your request will place one of these experts at your service.

ASSOCIATED OIL COMPANY

Refiner and Marketer of "Sustained Quality" Products:

AVON INDUSTRIAL LUBRICANTS ◆ AVON MARINE LUBRICANTS

CYCOL MOTOR OILS AND GREASES

ASSOCIATED GASOLINE ◆ ASSOCIATED ETHYL GASOLINE

BURNBRITE KEROSENE ◆ AVON SPRAY EMULSION ◆ FUEL AND FURNACE OILS

Wood Pulp Imported By Japan
March, 1930

	Chemical Pulp Pounds	Mechanical Pulp Pounds
England	.....	.....
U. S. A.	866,933	.....
Germany	276,800	.....
Sweden	962,133	Nil
Norway	250,533	.....
Canada	11,040,800	.....
France	409,333	.....
Denmark	91,868	.....
Sundries	305,600	.....
	14,204,000	Nil

Total March Imports—14,204,000 Pounds.
Total February Imports—20,849,466 Pounds.

Willapa Mill Still On Inactive List

Altho organized a couple of years ago and proposing to build a kraft pulp mill of about 100 tons daily capacity, concrete results in the way of actual building have rather discouraged the citizens of the Willapa Harbor district in Southwest Washington, where the Willapa company holds a site between the cities of South Bend and Raymond at which location the mill was to be erected. This discouragement of the Willapa Harbor people is evidenced in the following statement from the South Bend Pilot made in the course of a discussion of the locality's industrial water question:

"The Willapa Pulp & Paper Mills wanted the city (South Bend) to develop this supply and offered $16 a million gallons, stating they would need between 2½ and 3 million gallons during a 24-hour period. But the Willapa Pulp & Paper Mills has shown no industrial life, and many local residents regard it more as a promotion scheme than a reality. R. A. Swain (president of the Willapa company) and his associates recently sold their holdings to an English corporation, but still there is no activity."

The sale referred to was made to the British-American Consolidated Properties, Ltd., headed by George Moulton, with offices in the Smith Tower, Seattle. The company lists an imposing arary of subsidiaries, but apparently has very few opearting properties. At the time of the sale of Willapa to the British-American group, Willapa closed its Portland offices and moved in with Mr. Moulton in Seattle. Actual construction of the mill, it was stated at that time, was to begin about April 15. That date has been considerably passed.

PACIFIC COAST PAPER IMPORTS
MARCH, 1930

	Newsprint Dollars	Printing Dollars	Writing & Drawing Dollars	Wrapping Dollars	All Others Dollars
To LOS ANGELES—					
From Sweden	161,302	.....	.....	.....	.....
From Canada	117,081	.....	.....	.....	.....
From Europe	33,625	.....	2	676	6,120
From Newfoundland	261	.....	.....	.....	.....
From Japan	.....	.....	24	.....	887
From Other Orient	.....	.....	.....	.....	30
From Mexico	.....	.....	.....	.....	150
To SAN FRANCISCO—					
From Sweden	148,355	1,734	.....	175	512
From Canada	170,783	.....	.....	.....	3
From Europe	.....	.....	3,087	.....	12,681
From Japan	.....	.....	67	.....	28,501
From Other Orient	.....	.....	16	29	618
To OREGON—					
From Canada	.....	.....	.....	.....	228
From Japan	.....	.....	.....	.....	199
From Europe	4,682	.....	.....	.....	745
From Other Orient	.....	.....	.....	.....	28
To WASHINGTON—					
From Canada	398,058	.....	8	.....	86
From Newfoundland	37,212	.....	.....	.....	.....
From Europe	.....	.....	69	.....	1,095
From Japan	.....	.....	93	.....	2,978
From Other Orient	.....	.....	.....	.....	28
Pacific Coast Totals	1,071,359	1,734	3,366	880	54,889

Total Imports of All Paper and Paper Products, March, 1930—$1,132,228.

PACIFIC COAST PULP IMPORTS — FEBRUARY, 1930

	Pulpwood Cords	Pulpwood Dollars	Mechanically Ground Pulp Tons	Mechanically Ground Pulp Dollars	Bleached Sulphite Tons	Bleached Sulphite Dollars	Unbleached Sulphite Tons	Unbleached Sulphite Dollars	Unbleached Sulphate Tons	Unbleached Sulphate Dollars
To LOS ANGELES—										
From Sweden	.....	.....	.....	.....	1,100	53,836	.....	.....	.....	.....
To SAN FRANCISCO—										
From Sweden	.....	.....	.....	.....	1,000	46,762	.....	.....	.....	.....
From Canada	.....	.....	.....	.....	48	1,169	65	1,957	218	6,291
From Finland	.....	.....	.....	.....	.....	.....	.....	.....	27	915
To WASHINGTON—										
From Canada	520	3,178	.....	.....	196	11,033	243	16,061	.....	.....
Pacific Coast Totals	520	3,178	.....	.....	2,344	112,800	308	18,018	245	7,206

Total Imports Pulpwood and Wood Pulp for February, 1930—$141,202.

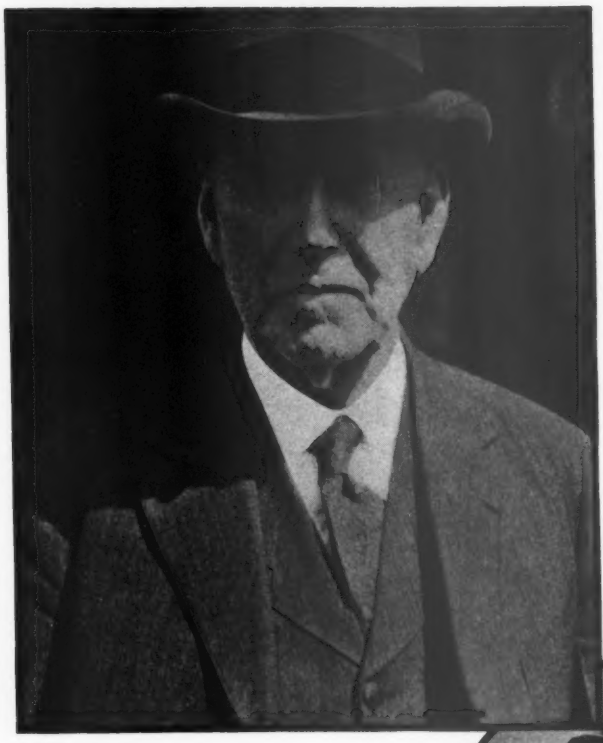
Paper Base Stocks entering Pacific Coast Customs Districts during February, 1930, were as follows: To Los Angeles: from Australia, $1,521; from Belgium, $7,005; from France, $18,298; from Germany, $6,753; from China, $5,988; from Japan, $68,110. To San Francisco: from Germany, $5,225; from Argentina, $525; from China, $4,534; from Japan, $22,034; from Australia, $828. To Washington from Canada, $4,073. Total entries, all ports—$144,898.

PACIFIC COAST PULP IMPORTS—MARCH, 1930

	Pulpwood Dollars	Pulpwood Cords	Mechanically Ground Pulp Dollars	Mechanically Ground Pulp Tons	Bleached Sulphite Dollars	Bleached Sulphite Tons	Unbleached Sulphite Dollars	Unbleached Sulphite Tons	Unbleached Sulphate Dollars	Unbleached Sulphate Tons
To SAN FRANCISCO—										
From Canada	.....	.....	.....	.....	.....	.....	16,143	347	9,796	299
To WASHINGTON—										
From Canada	.....	.....	3,404	179	.....	.....	12,576	238	.....	.....
Pacific Coast Totals	.....	.....	3,404	179	.....	.....	28,719	585	9,796	299

Total Imports Pulp Wood and Wood Pulp for March, 1930—$42,982.

Paper Base Stocks Imported into Pacific Coast Customs Districts during March, 1930, were as follows: To Los Angeles from Austria, $410; from Belgium, $16,574; from France, $8,974; from Germany, $3,208; from Japan, $12,728. To San Francisco, from Austria, $986; from Germany, $5,979; from Japan, $44,583; from Australia, $358; from New Zealand, $555. To Washington, from Canada, $3,795; from Japan, $5,805. Total, all entries, $103,955.



General Manager Archie Morrison, who, with his five younger brothers, came down from Canada thirty-eight years ago to found the Morrison Mill Co.

I. Joanis, box factory foreman at Bellingham often sees 25,000 boxes made in a single day!

Shook for 400,000 boxes per month

. . . Shell lubricants help Morrison Mills produce it!

THIRTY-EIGHT years ago six Morrison brothers came down to Washington from Canada and started in the lumber business.

When we saw Mr. Archie Morrison at the Bellingham Mill the other day he told us something of the growth of this business. The Morrison Company specializes in box shook. They have three mills — at Bellingham, Blaine and Anacortes. Their combined output is something like 400,000 boxes per month — a whole lot of *shook*, if you ask us.

And, as you would expect, Morrison Mill Company use Shell Mill Lubricants. Mr. I. Joanis, the Bellingham Box Factory foreman, put it this way: "It takes a lot of men and money to run this place. We couldn't afford to let faulty lubrication cause a shut down."

SHELL MILL LUBRICANTS

To Improve Anacortes Water Supply

Following some rather drawn out arguments the city council of Anacortes, Washington, finally on May 20 unanimously accepted and ratified an amended contract with the W. C. Morse Company to supervise and complete the Skagit River water supply extension.

The Fidalgo Division of the Puget Sound Pulp & Timber Company, operating a 60-ton unbleached sulphite pulp mill at Anacortes, is a principal customer of the water system. A new water contract will be formulated.

E. L. Regin, San Francisco, western manager for the Kieckhefer Container Co., visited the Milwaukee home office of his firm recently.

PACIFIC COAST PAPER EXPORTS—MARCH, 1930

	Newsprint		Printing		Writing		Greaseproof		Wrapping		Tissue	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
From LOS ANGELES—												
To China	-------	-------	1,341	101	-------	-------	-------	-------	-------	-------	-------	-------
To Mexico	-------	-------	-------	-------	358	117	400	80	23,809	1,852	6,669	1,697
To Philippines	-------	-------	-------	-------	-------	-------	1,013	742	-------	-------	-------	-------
To Other Orient	-------	-------	-------	-------	-------	-------	-------	-------	12	2	-------	-------
From SAN FRANCISCO—												
To Central America	155,749	5,270	96,698	5,438	187,804	8,966	22	10	119,299	6,379	2,232	178
To South America	30,669	970	-------	-------	9,099	549	-------	-------	1,724	148	17	4
To Philippines	149,481	5,942	-------	-------	967	191	-------	-------	98,027	4,317	3,436	372
To Mexico	-------	-------	5,402	297	1,211	321	-------	-------	-------	-------	1,524	169
To China	30,010	1,113	-------	-------	65	42	-------	-------	200	20	1,726	317
To Australia	-------	-------	-------	-------	-------	-------	-------	-------	2,237	161	541	90
To Japan	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	266	135
To Other Orient	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	375	50
To Canada	-------	-------	-------	-------	67	28	-------	-------	-------	-------	-------	-------
From OREGON—												
To South America	54,866	1,627	£3,413	750	-------	-------	-------	-------	2,460	176	-------	-------
To Philippines	137,231	4,888	-------	-------	141,032	6,673	-------	-------	181,801	7,007	-------	-------
o Australia	-------	-------	43,865	2,290	32,474	1,612	-------	-------	-------	-------	-------	-------
To China	-------	-------	-------	-------	-------	-------	-------	-------	900	304	-------	-------
From WASHINGTON—												
To United Kingdom	-------	-------	501	30	-------	-------	1,452	200	-------	-------	-------	-------
To Canada	-------	-------	26,824	1,893	9,958	1,008	1,519	244	44,413	2,322	29,541	2,455
To China	-------	-------	1,109,000	66,542	-------	-------	-------	-------	-------	-------	13,448	1,156
To Philippines	-------	-------	138,107	7,579	5	2	-------	-------	-------	-------	-------	-------
To Australia	-------	-------	51,625	2,689	21,006	1,145	-------	-------	-------	-------	-------	-------
To Other Orient	-------	-------	-------	-------	-------	-------	348	91	-------	-------	2,050	1,200
To Japan	-------	-------	-------	-------	-------	-------	40	2	-------	-------	-------	-------
Pacific Coast Total	558,006	19,810	1,486,776	87,609	404,046	20,654	4,794	1,369	474,882	22,688	61,825	7,823

	Board		Building		Boxes & Cartons		Paper Bags		Converted Paper Products		Miscellaneous Paper & Prod.
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Dollars
From LOS ANGELES—											
To Mexico	200	10	5,366	287	-------	-------	80	10	667	172	1,342
To South America	-------	-------	28,807	770	-------	-------	-------	-------	-------	-------	-------
To Australia	-------	-------	53,844	1,567	-------	-------	-------	-------	-------	-------	-------
To Canada	-------	-------	-------	-------	-------	-------	18,010	1,585	225	68	-------
To China	-------	-------	-------	-------	-------	-------	-------	-------	1,660	231	-------
To United Kingdom	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	200
To Philippines	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	22
From SAN FRANCISCO—											
To Canada	2,958	705	-------	-------	-------	-------	11,628	999	-------	-------	1,004
To South America	1,279	226	-------	-------	-------	-------	16,621	1,212	750	496	228
To Other Orient	253,605	7,478	35,515	1,013	-------	-------	-------	-------	167	67	-------
To China	225,477	8,187	50,900	1,504	9,065	1,114	-------	-------	599	147	282
To Australia	206,058	5,511	42,505	1,667	142	29	6,193	508	3,171	401	19,224
To Philippines	27,143	2,380	5,000	156	16,923	792	46,756	2,699	200	49	1,201
To Central America	26,500	839	-------	-------	-------	-------	47,753	3,041	642	275	172
To Japan	-------	-------	24,500	795	-------	-------	-------	-------	746	214	72
To United Kingdom	-------	-------	-------	-------	18,550	840	-------	-------	-------	-------	5
To Italy	-------	-------	-------	-------	-------	-------	-------	-------	70	27	-------
To Mexico	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	614
To All Others	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	24
From OREGON—											
To China	1,029,168	20,069	-------	-------	-------	-------	-------	-------	-------	-------	-------
To Australia	10,500	312	-------	-------	-------	-------	-------	-------	-------	-------	-------
To Central America	-------	-------	-------	-------	-------	-------	5,115	287	-------	-------	-------
To South America	-------	-------	-------	-------	-------	-------	13,210	1,070	-------	-------	11
To Philippines	-------	-------	-------	-------	-------	-------	46,706	2,664	-------	-------	-------
To Europe	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	21
From WASHINGTON—											
To Canada	3,633	530	-------	-------	22,592	1,940	715	135	2,926	592	3,031
To Other Orient	-------	-------	-------	-------	174	49	-------	-------	-------	-------	5
To Japan	-------	-------	-------	-------	-------	-------	-------	-------	50,237	3,903	25
To Philippines	-------	-------	-------	-------	-------	-------	-------	-------	25	6	2,074
To China	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	118
Pacific Coast Total	1,786,521	46,247	246,437	7,759	67,446	4,764	213,787	14,210	62,085	6,648	29,675

Total All Paper Exports for the Month of March, 1930—$269,256.
Total All Paper Exports for the Month of February, 1930—$228,421.
Total All Paper Exports for Three Months, 1930—$1,228,113.

Washington shipped the following wood pulp during the month of March, 1930: Sulphite: to Belgium, 42 tons, $1,820; to France, 384 tons, $16,350; to Germany, 108 tons, $4,400; to Argentina, 500 tons, $24,440. Other wood pulp to Spain, 11 tons, $485.

CLASSIFICATIONS—For convenience of presentation, some classifications have been combined, as follows: "printing," includes book (not coated), cover and surface coated paper; "greaseproof" includes waterproof; "tissues" includes crepe, tissue, paper towels, napkins and toilet; "board" includes boxboard, bristol, bristolboard and other paper board and strawboard; "building" includes sheathing, and other building paper; "writing" includes fancy papeteries and other writing; "converted paper products" includes envelopes, cash register rolls, index file and other office forms; "miscellaneous" includes blotters, paper hangings, vulcanized fibre sheets, strips, rods and tubes, manufactures of vulcanized fibre and other paper products. COUNTRIES—Under the classification "Central America" are included all of the Central American countries and Cuba. "South America" includes only the following South American countries: Ecuador, Paraguay, Bolivia, Uraguay, and the Guianas; other South American countries are classified separately. "Orient" includes all the Asiatic countries with the exception of China and Japan, which are separately classified. New Zealand is included under "Australia."

Oil Removing Filters saved fuel and boiler tubes in this Minnesota Paper Mill

A WELL known newsprint mill in Grand Rapids, Minn., operates four beaters, one Jordan and two Fourdriniers using both steam and water power. A Hamilton Uniflow engine drives the machines and the condensate from it was always discharged to waste as it contained too much oil to be used in the boiler.

Even Small Amounts of Oil in Boiler Feed Water Result in Blistered and Burned Out Tubes Like This One.

Condensate from the dryers, however, was returned to the boilers in spite of the fact that it contained some oil, and considerable trouble was always experienced from burned out boiler tubes, as a result.

In January 1923, Permutit Oil Removing Filters were installed to free all the condensate from oil and deliver it clean and clear for boiler feed make-up. The result has been absolutely clean boilers and condensers ever since, a reduction of boiler repairs, tube replacements, etc., to a negligible amount, and a substantial saving in fuel. The saving of condensate formerly discharged to waste has alone been almost sufficient to pay for the installation in a few years' time.

A letter from the manager states in part as follows:

"Our oil removal system was put in operation January 1923, to take care of the condensation from a Hamilton Uniflow engine and from our paper machine dryers. The bulk of the steam used in our paper machine dryers first passes through engines for driving the machines. Prior to the time we installed the oil removal system we were not using the condensation from the Hamilton Uniflow engine as it contained too much oil. There was also some oil in the condensation coming from our paper machine dryers.

"We had considerable trouble with our boilers, losing one old H.R.T. boiler, and replacing a number of tubes in our water tube boilers. Since installing the oil removal system we have used the condensation from the Hamilton engie as well as condensation from paper machine dryers, and after getting the oil cleaned out from our boilers and economizers, found absolutely no trace of oil."

Whether your plant is large or small, if you have any condensate from engines or dryers it will pay you to investigate Permutit Oil Removing Filters. Let us send you our free booklet, "Saving Fuel and Repairs with Oil Free Feed Water."

No obligations — write today.

THE PERMUTIT COMPANY

Apparatus for Removing Impurities From Water

SAN FRANCISCO, 1012 BALBOA BUILDING. — LOS ANGELES, 909 WRIGHT CALLENDAR BUILDING

The Paper and Pulp Industry in March, 1930

According to identical mill reports to the Statistical Department of the American Paper and Pulp Association from members and cooperating organizations, paper production in March showed an increase of 4% over February, 1930, and a decrease of 6% under March, 1929. The total wood pulp production in March registered an increase of 12% over February, 1930, and an increase of 6% over March, 1929.

The March production of newsprint, uncoated book, paperboard, bag, wrapping, writing, tissue and building papers registered a decrease under March, 1929, output. Hanging paper production showed a substantial increase in production over March, 1929. Shipments of all grades of paper, excepting hanging paper, decreased as compared with March, 1929.

Newsprint, uncoated book, writing, tissue and hanging papers registered increases in inventory at the end of March, 1930, as compared with the end of February, 1930. As compared with March, 1929 inventory, newsprint, wrapping and bag papers showed decreases. The total stocks on hand for all grades was 4% above February, 1930, and 10% above those of March, 1929.

Identical pulp mill reports for March, 1930, indicated that during March, 1930, 18% more mitscherlich sulphite pulp, 6% more bleached sulphite pulp and 5% more kraft pulp was consumed by reporting mills than in March, 1929. The total shipments to outside markets of all grades of pulp in March, 1930, were 3% below the total for March, 1929.

Easy bleaching sulphite pulp was the only grade that showed a decrease in inventory at the end of March as compared with the end of February, 1930. As compared with March, 1929, groundwood, news grade sulphite, and soda pulps registered decreases in inventory.

REPORT OF PAPER OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1930

GRADE	Production Tons	Shipments Tons	Stock on Hand End of Month—Tons
Newsprint	113,331	109,765	24,004
Book (Uncoated)	84,365	79,612	49,364
Paperboard	193,169	194,308	59,825
Wrapping	48,996	49,431	45,777
Bag	14,457	15,064	6,755
Writing	34,048	32,012	46,344
Tissue	11,750	11,422	8,879
Hanging	5,587	4,888	4,242
Building	5,146	5,155	4,990
Other Grades	21,878	20,305	15,935
Total—All Grades	532,727	521,962	266,115

REPORT OF WOOD PULP OPERATIONS IN IDENTICAL MILLS FOR THE MONTH OF MARCH, 1930

GRADE	Production Tons	Used During Month—Tons	Shipped During Month—Tons	Stocks on Hand End ofMonth—Tons
Groundwood	106,205	85,403	2,600	64,492
Sulphite News Grade	38,734	34,167	3,109	7,858
Sulphite Bleached	28,544	25,901	2,409	3,218
Sulphite Easy Bleaching	2,906	2,844	375	744
Sulphite Mitscherlich	7,913	6,621	1,240	1,020
Kraft Pulp	31,954	26,608	3,887	8,478
Soda Pulp	24,779	15,963	8,628	3,812
Pulp—Other Grades	62	———	59	32
Total—All Grades	241,097	197,507	22,307	89,634

IMPORTS OF PULP WOOD AND WOOD PULP INTO THE UNITED STATES BY COUNTRIES

MARCH, 1930

Compiled by the U. S. Department of Commerce Bureau of Foreign and Domestic Commerce

(Figures Subject to Revision.)

PULP WOOD

	Rough				Peeled				Rossed	
	Spruce		Other		Spruce		Other		Spruce	
	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars	Cords	Dollars
COUNTRIES—										
Canada (and total)	21,250	179,929	86	483	69,336	748,629	32,284	266,316	1,173	13,329

Total Imports of Pulp, All Grades			
March, 1930	115,438 Tons;	$6,130,661.
February, 1930	194,560 Tons;	9,778,105.
1930 to Date	488,468 Tons;	25,218,502.

WOOD PULP

	Mechanically Ground		Chemical Unbleached Sulphite		Chemical Bleached Sulphite		Chemical Unbleached Sulphate		Chemical Bleached Sulphate		All Other Wood Pulp	
	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars	Tons	Dollars
COUNTRIES—												
Austria	———	———	———	———	88	6,438	———	———	———	———	12	2,050
Czechoslovakia	———	———	———	———	152	9,766	———	———	———	———	———	———
Estonia	———	———	499	25,737	———	———	———	———	———	———	———	———
Finland	621	16,861	7,275	366,788	53	3,582	5,116	213,877	406	26,069	———	———
France	———	———	———	———	———	———	———	———	———	———	20	1,989
Germany	———	———	2,450	143,866	7,195	518,803	———	———	———	———	37	2,761
Latvia	———	———	———	———	30	1,383	———	———	———	———	———	———
Norway	2,447	66,869	2,193	123,725	2,253	169,547	847	49,370	———	———	———	———
Poland and Danzig	240	6,230	———	———	———	———	470	20,924	———	———	———	———
Sweden	998	28,853	10,224	547,176	2,340	175,745	5,922	294,707	28	1,746	———	———
Yugoslavia and Albania	———	———	96	4,140	———	———	———	———	———	———	———	———
Canada	20,095	595,833	17,635	875,382	16,947	1,285,864	7,743	473,785	300	27,700	342	23,672
Total	24,401	714,646	40,736	2,106,235	29,058	2,171,128	20,098	1,052,663	734	55,515	411	30,474

TOTAL PULPWOOD IMPORTS		
March, 1930	124,129 Cords;	$1,208,686.
February, 1930	139,405 Cords;	1,363,188.
1930 to Date	380,746 Cords;	3,755,109.

Production of News Print April, 1930

Production in Canada during April, 1930, amounted to 228,048 tons and shipments to 221,050 tons. Production in the United States was 109,967 tons and shipments 109,346 tons, making a total United States and Canadian news print production of 338,015 tons and shipments of 330,396 tons. During April, 23,172 tons of news print were made in Newfoundland and 1,890 tons in Mexico, so that the total North American production for the month amounted to 363,077 tons.

The Canadian mills produced 7,958 tons less in the first four months of 1930 than in the first four months of 1929, which was a decrease of 1 per cent. The United States output was practically the same as in the same period last year. Production in Newfoundland was 10,555 tons, or 13 per cent more in the first four months of 1930 than in 1929 and in Mexico 366 tons more, making a total increase of 1,991 tons.

During April the Candian mills operated at 75.0 per cent of rated capacity, United States mills at 77.7 per cent and Newfoundland mills at 96.8 per cent. Stock of news print paper at Canadian mills totalled 45,948 tons at the end of April and at United States mills 24,546 tons, making a combined total of 70,494 tons, which was equivalent to 4.2 days' average production.

NORTH AMERICAN PRODUCTION

	Canada	United States	Newfoundland	Mexico	Total
1930—April	228,048	109,967	23,172	1,890	363,077
Four Months	832,607	459,747	91,112	6,748	1,390,214
1929—Four Months	840,565	460,719	80,557	6,382	1,388,223
1928—Four Months	764,901	471,062	72,333	5,024	1,313,320
1927—Four Months	654,264	518,447	66,218	4,744	1,243,673
1926—Four Months	581,183	560,846	55,233	4,081	1,201,343
1925—Four Months	492,945	504,643	20,942	4,167	1,022,697
1924—Four Months	452,322	500,464	21,576	3,832	978,194
1923—Four Months	400,993	488,076	20,886	4,000	913,955

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TYLER WIRES

Powell Repeats Research Donation

Powell River Company, which last year gave $5,000 to the University of British Columbia to finance research work of value to the newsprint industry, has this year granted a similar appropriation for that purpose.

The research work is in charge of Prof. Wilfred Sadler, head of the department of dairying, and his assistant, Dr. Blythe Eagles, and their task is to find an agency for the prevention of discoloration in newsprint. These university men are carrying on their experiments in close collaboration with chemists of the Powell River Company and have made frequent trips to the mill to study the practical effect of their research.

"Real progress has been made, but it has not reached the stage yet where it is advisable to describe what has been done in detail," said President L. S. Klinck, of the university. "The donation of the Powell River Company enables us to carry the research work a further step and I am hopeful that something of considerable value to the industry may be our return."

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Hon. W. J. Mann and eleven other members of the New Zealand delegation to the Empire Press Conference in London were recent guests of the Powell River Company on a visit to the paper town. As most of the delegates are publishers of newspapers they were much interested in seeing the source of much of the newsprint they use in New Zealand.

PACIFIC COAST PAPER IMPORTS

FEBRUARY, 1930

	Newsprint Dollars	Printing Dollars	Writing & Drawing Dollars	Wrapping Dollars	All Others Dollars
To LOS ANGELES					
From Norway	2,033	.....	.....	.....	.....
From Sweden	152,369	.....	.....	.....	.....
From Canada	61,932	.....	.....	.....	.....
From Japan	.....	.....	60	.....	554
From China	.....	32	.....	.....	6
From Czechosolvakia	.....	.....	.....	.....	91
From Other Orient	.....	.....	19	.....	52
From Europe	.....	165	3,559	.....	8,411
From Mexico	.....	.....	.....	.....	5
From Africa	.....	.....	.....	.....	63
To SAN FRANCISCO—					
From Sweden	95,480	.....	.....	.....	.....
From Canada	97,245	.....	.....	.....	.....
From China	.....	19	14	.....	76
From Japan	.....	.....	624	.....	8,307
From Other Orient	.....	.....	103	13	280
From Europe	.....	773	.....	.....	23,308
To OREGON—					
From Japan	.....	.....	10	.....	952
From United Kingdom	.....	.....	.....	.....	554
From All Others	.....	.....	.....	.....	3
To WASHINGTON—					
From Canada	275,005	.....	6	.....	757
From Japan	.....	.....	35	.....	3,998
From Europe	.....	.....	210	.....	2,782
Pacific Coast Totals	684,064	989	4,640	13	50,199

Total Imports of All Paper and Paper Products, February, 1930—$739,905.

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[Japan] [Michigan]

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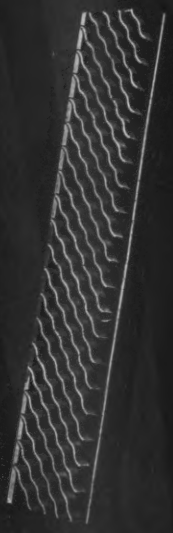

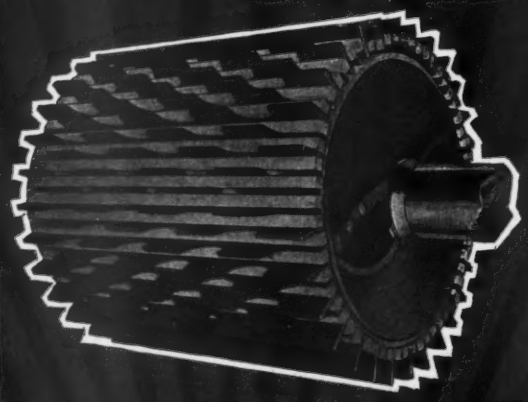

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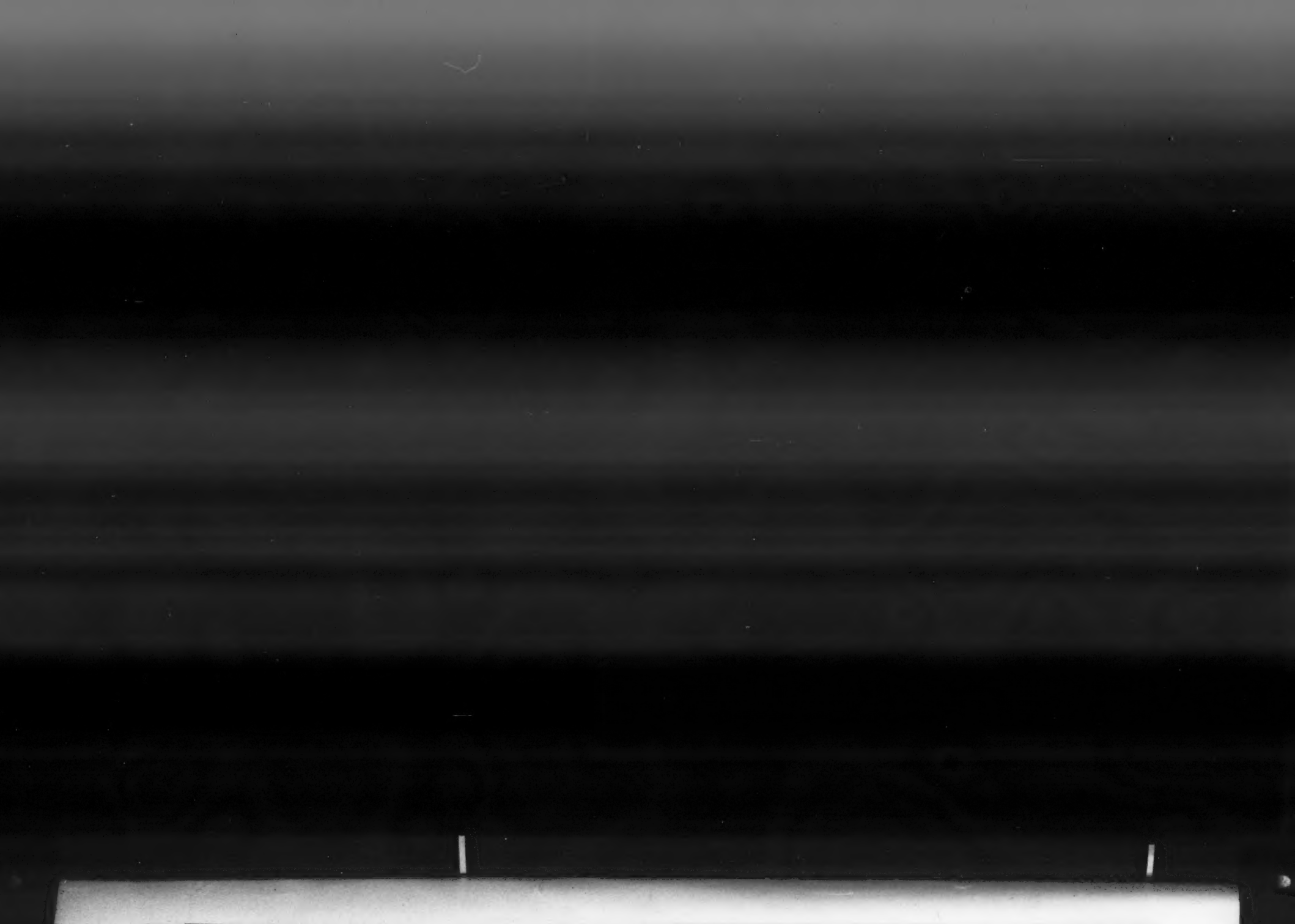
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